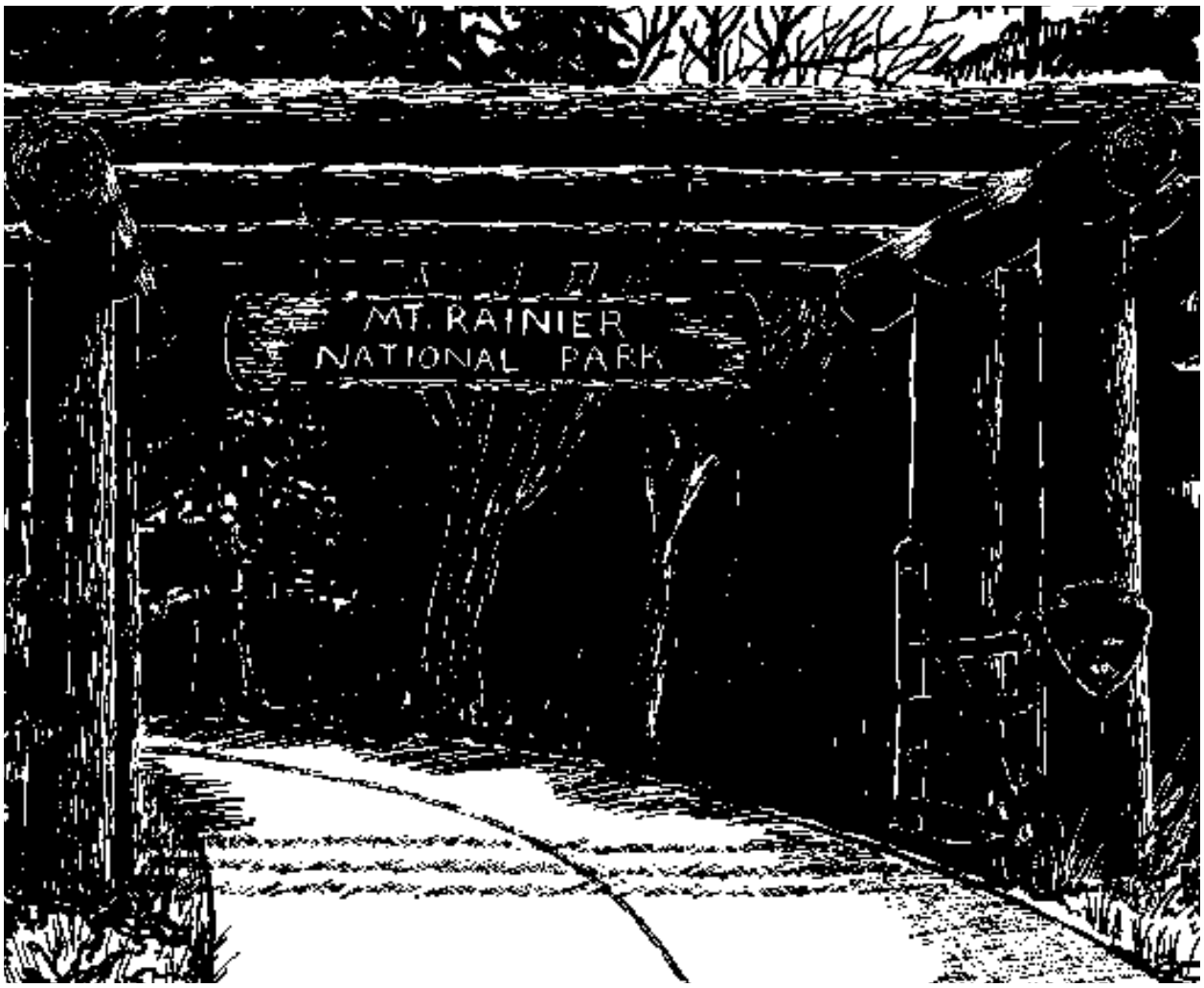
LONG-RANGE INTERPRETIVE PLAN

MOUNT RAINIER NATIONAL PARK

JUNE 2000



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Mount Rainier National Park

June 2000

prepared by

Department of the Interior
National Park Service

Mount Rainier National Park

Harpers Ferry Center
Interpretive Planning

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INTRODUCTION

Purpose and Context of the Plan

This long-range interpretive plan (LRIP) for Mount Rainier National Park (MORA) is a component of the Park's comprehensive interpretive plan (CIP), as outlined in the National Park Service Interpretive Guidelines (NPS-6). Using the park's mission, purpose, and resource significance statements, plus the primary interpretive themes and visitor experience goals, this plan articulates the visions for the park's interpretive future, and recommends the media and programs best suited for meeting visitor needs, achieving management goals, and telling the park stories. These foundation elements come directly from, or are based on, similar statements in the park's Strategic Plan and other park planning documents.

Mount Rainier National Park has never had a park-wide interpretive plan. This fact is amazing, considering that Mount Rainier is the fifth oldest park in the National Park System. The only long-range interpretive planning documents on record are a 1962 Interpretive Prospectus for Ohanapecosh and a 1976 Interpretive Prospectus for Longmire.

Much of the interpretive media in the park is outdated and some, in fact, is inaccurate in light of current research. Accurate and sufficient information is lacking in some areas—information that is important for visitor safety and enjoyment, and information necessary for understanding and appreciating the park's primary themes and resources.

This plan is not an end in itself, but rather, it establishes the overall framework for the next phases of the process—program planning, media planning, design, and production over the next 7-10 years. Further, as stated in NPS-6, the park also needs to develop an Annual Interpretive Plan and an Interpretive Database to complete the CIP.

BACKGROUND

Mount Rainier National Park is located west of the crest of the Cascade Range, approximately 65 miles southeast of the Seattle-Tacoma metropolitan area and 65 miles west of Yakima. Mount Rainier, at an elevation of 14,410 feet, towers 2,000 feet above the surrounding Cascade summits and dominates the Puget Sound skyline.

Mount Rainier was established as a National Park on March 2, 1899. The enabling legislation states that the park was set apart as a public park:

> *…for the enjoyment of the people…for the preservation from injury or spoliation of all timber, mineral deposits, natural curiosities, or wonders…and their retention in their natural condition…grant parcels of ground at such places shall require the erection of buildings for the accommodation of visitors…provide against the wanton destruction of the fish and game found in the park.*

The park is also administered under the provisions of the Organic Act of 1916, which specifies that units of the National Park System are:

> *…to conserve the scenery and the natural and historic objects and the wild life therein…and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.*

Subsequent acts have revised and extended the park boundaries, provided a headquarters site near Ashford, Washington, and designated 97% of the park as Wilderness. Most of the park's buildings and roads have been designated as a National Historic Landmark District.

PARK PURPOSE

The purpose of Mount Rainier National Park is found in the above legislation establishing the park and creating the NPS. Specifically, Mount Rainier National Park is to be managed to:

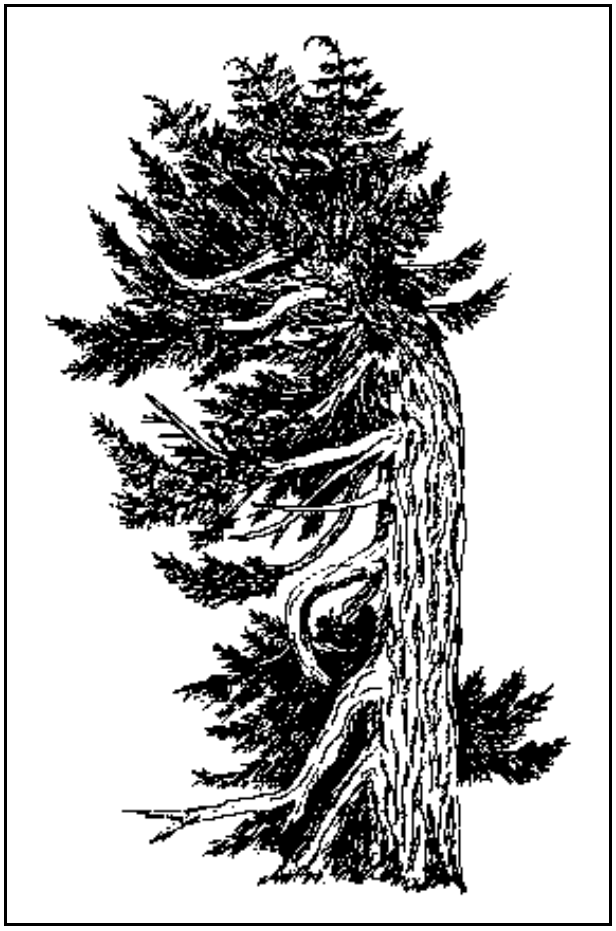
- Protect and preserve its natural and cultural resources, processes, and values, while recognizing their increasing importance in the region, the nation, and the world.
- Provide opportunities for visitors to experience and understand the park environment without impairing its resources.
- Maintain wilderness values and provide for wilderness experiences.

PARK SIGNIFICANCE

The resources of Mount Rainier National Park are significant for the following reasons:

- At a height of 14,410 feet, Mount Rainier is the highest volcanic peak in the contiguous United States. It reaches into the upper atmosphere to disturb great tides of eastward moving Pacific maritime air, resulting in spectacular cloud formations, prodigious amounts of rain, and record-setting snowfalls.
- As a part of the Pacific Ring of Fire, Mount Rainier is an outstanding example of Cascade volcanism and has the largest alpine glacial system in the contiguous United States.
- Mount Rainier's eruptions and mudflows continue to shape the area and are a continuing threat to park visitors, employees, and surrounding lowland communities.
- Because of its great elevational range and the extensive glacial systems, Mount Rainier offers outstanding opportunities to study how biological communities respond to climatic change.
- The park contains outstanding examples of diverse vegetation communities, ranging from old growth forest to subalpine meadows and ancient alpine heather.
- The park is a remnant of the once widespread primeval Cascade ecosystem and provides habitat for many species representative of the region's flora and fauna.
- As urban and rural development expand, the park increases in importance as a large island of protected open space where ecosystem processes dominate.
- The park's comprehensive National Historic Landmark District—a cultural landscape district including buildings, roads, the Wonderland Trail, and other landscape structures—is the most significant and complete example of NPS planning policies and park development of the first half of the 20th century.
- The developed areas of Mount Rainier contain some of the nation's best examples of intact complexes of "NPS Rustic" style architecture of the 1920s and 1930s.
- Over 97% of the land comprising Mount Rainier National Park was designated the Mount Rainier Wilderness in 1998. Wilderness designation provides the highest level of resource protection for some of the most pristine and least manipulated wild lands in the United States.

- Called by some American Indian groups “the place where rivers begin,” Mount Rainier’s watersheds nourish plant and animal communities in the park, extend to the valleys below, and are an important source of water for the Puget Sound region.
- Mount Rainier, visible throughout the region, is a continuing source of inspiration to people. This quality contributed to the establishment of the national park in 1899. The mountain is a prominent icon that shapes the physical environment and human experience in the Pacific Northwest.
- For many generations, several American Indian tribes have utilized the resources of Mount Rainier for physical, emotional, and spiritual sustenance. These ties continue to be significant.
- The park offers recreational and educational opportunities in a wide range of scenic settings, including wildflower meadows, glaciers, and forests, all in a relatively compact area that is easily accessible to a large urban population.
- Mount Rainier’s terrain and weather conditions offer world-class climbing opportunities that have tested the skills of climbers for more than a century.



INTERPRETIVE MISSION

We seek to preserve the natural and cultural resources of Mount Rainier National Park through effective interpretation and education services that reveal meanings of park resources and inspire people to protect the park for future generations. Our work reflects professional excellence and is accomplished through initiative, integrity, and interdependence. Our goal is to leave a legacy of great love for the national parks.

PRIMARY INTERPRETIVE THEMES

Primary interpretive themes are those ideas/concepts about Mount Rainier National Park that guide every facet of interpretive program development and delivery, and are critical to visitor understanding and appreciation of the park's importance. These themes, which are based on the park's mission, purpose, and resource meanings and significance, provide the foundation for all interpretive media and programs in the park. The themes do not include everything that may be interpreted, but they do address those ideas that are critical to understanding and appreciating the park's importance. All interpretive efforts (through both media and personal services) should relate to one or more of the themes, and each theme should be addressed by some part of the overall interpretive program.

The following theme statements, divided into major topics, will provide the basis for interpretation at Mount Rainier National Park. The topics and primary themes appear in bold, followed by key supporting subtheme statements.

GEOLOGY

Mount Rainier is an active volcano that shapes the landscape and influences processes both within and beyond the park boundary.

Subthemes:

Mount Rainier is a product of past and continuing volcanic forces, both creative and destructive. The mountain's constructive and destructive force pose significant hazards to human and natural communities in and around the park.

The glaciers on Mount Rainier are dynamic forces of change in the mountain's form and appearance. The glaciers feed glacial rivers, which have unique hydrologic processes. They are a continuous source of water for downstream communities and ecosystems, and they are a historic record of environmental conditions of the region.

HISTORY

There is a long and varied history of human interaction with the mountain. Mount Rainier has always shaped the lives and character of the area's human inhabitants.

Subthemes:

American Indians camped on the mountain's slopes to hunt and gather plant resources. Modern tribal members have a living connection with the mountain, characterized by respect and a lively interest in the continued use and preservation of its resources.

As Euro-American explorers, pioneers, and settlers moved into the surrounding region, many were drawn by the beauty, challenges, and opportu-

nities the mountain afforded. Concern for the mountain's future ultimately led to the establishment of Mount Rainier as a national park.

Using local materials and designs to harmonize with the natural setting, some of Mount Rainier National Park's architecture exemplifies the best of the rustic style. Park buildings, along with roads, trails, and bridges, now comprise a National Historic Landmark District, which represents the best of early national park planning.

Mount Rainier has offered, and continues to offer, a multitude of recreational opportunities from the earliest climbing and camping to modern hiking and sightseeing. The mountain has been a mecca for recreational climbing since early times, and still attracts thousands of climbers each year.

ECOLOGY

Mount Rainier creates and supports a diverse ecosystem that ranges from snowfields and glaciers to alpine tundra and low elevation forest.

Subthemes:

Although vulnerable to human-caused damage, the plants and animals which are able to exist in alpine and subalpine communities are well adapted to meet the challenges posed by harsh environmental conditions.

Mount Rainier's old-growth forests support a rich diversity of flora and fauna, comprising one of the densest biomasses on Earth. The prime stands of old-growth forests on Mount Rainier's lower slopes are a valuable remnant of those once occupying much of the Pacific Northwest.

Preservation and study of Mount Rainier's ecosystems lead to public understanding of natural forces affecting the Pacific Northwest, the nation, and the world.

National parks in the Pacific Northwest have become islands, as external influences threaten their natural qualities. Threats such as air pollution and the spread of non-native plant species know no boundaries, and directly affect these national parks' values.

WILDERNESS

Mount Rainier's pristine Wilderness has ecological, social, scientific, educational, recreational, and cultural value. The value of Mount Rainier's Wilderness increases exponentially as areas outside the park are developed and open space is lost.

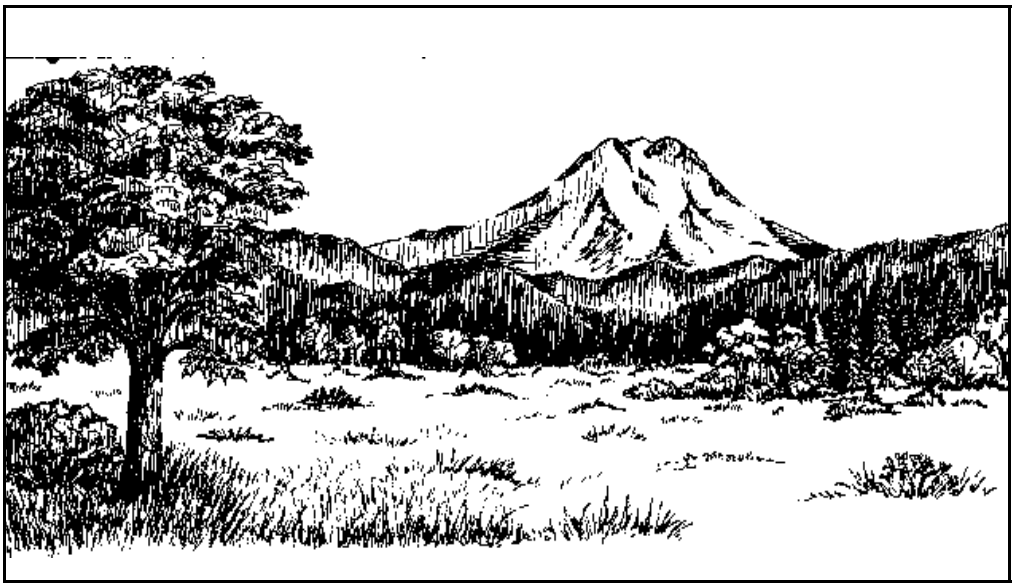
Subthemes:

By law, Mount Rainier Wilderness is managed to retain its primeval character and natural conditions, and to preserve wilderness as a special place for people to examine their relationship to the world.

The park's management of natural resources over the past century mirrors American society's changing understanding and appreciation of wilderness values.

Mount Rainier Wilderness is a source of inspiration, providing boundless opportunities for exploration, solitude, contemplation, and physical and mental challenge.

The survival of the park's Wilderness depends on individual and societal commitment to the idea of wilderness, a stewardship ethic, and appropriate visitor use and behavior when in Wilderness areas.



VISITOR EXPERIENCE GOALS

At Mount Rainier National Park, the NPS will provide opportunities for visitors to:

(A) Have a safe and satisfying visit, by ensuring opportunities exist where they may:

- connect or reconnect with the natural environment.
- receive adequate orientation and information before visiting the park (for trip planning) and, within the park, regarding activities, services and regulations.
- understand that MORA is a National Park, a Federal Wilderness area, and a National Historic Landmark District, which make it different from other outdoor recreation areas. Acting on this knowledge, visitors can make appropriate recreational choices.
- experience the mountain even if the summit is obscured by clouds.
- overcome fears and anxieties related to the natural environment, thereby expanding the range of experiences.

(B) Make connections between park resources and their meanings, which may occur when visitors:

- interact with park staff.
- assimilate interpretive themes through a variety of media.
- develop and act upon a sense of stewardship, before, during, and after visiting.
- experience park resources first hand, using all senses.
- continue learning about the park and its resources through educational materials available for purchase.
- know and experience wilderness concepts, values, and ethics, especially those related to the MORA wilderness.
- learn about park management issues, especially those relating to their visit and/or the integrity of park resources.
- become involved in the public processes of park planning and participate with a high degree of personal knowledge.
- understand Mount Rainier National Park within a regional ecosystem context and a national system of parks.

EXISTING VISITOR EXPERIENCE

Existing Visitor Experience and Conditions

The following is a summary description of the visitor experiences and conditions as they existed at the onset of this long-range interpretive planning process in 1999. This section provides a baseline to help justify many of the plan's proposed actions.

Pre-Arrival

Information about MORA is available through a variety of sources. Many governmental and private entities throughout the region, including concessionaire publications and tourist-based advertising in the Seattle-Tacoma metropolitan area, distribute information about the park. A variety of tourism literature also reaches regional, national, and international audiences. Images of Mount Rainier are prominently displayed in almost every tourist publication about Washington State or the Northwest.

The park handles a large volume of mail and telephone requests. Packets of materials are available to respond to some of the most common requests. In addition, the park has an excellent web site which provides trip planning information as well as descriptive and interpretive material about park resources. The site covers a multitude of topics, and was redesigned in July 1999 to improve navigation and appearance.

An interagency Outdoor Recreation Information Center is located at the REI store in Seattle.

Approaches

There are six entrances to Mount Rainier National Park. The only NPS information facility outside the park, a converted railroad caboose in the town of Wilkeson, was closed in January 2000. A suitable alternative location is needed and is currently being studied. The caboose was very small, did not meet accessibility standards, was open in summer only, and was inadequate to provide an introduction to the park's primary interpretive themes.

The majority of visitors (including most first-time visitors) come through the Nisqually Entrance in the southwest corner of the park. Due to the high volume of visitors during the peak season and on sunny weekends, rangers at the entrance station cannot address many questions. At the entrance station, visitors receive a copy of the official park folder and the current issue of the park newspaper; however, it is unknown how well these items are used as people drive along park roads. The first place to get information is at Longmire, and by that time visitors have driven past a number of significant resources. Furthermore, limited parking at Longmire discourages many visitors from stopping to receive further information, and many continue to Paradise.

Currently, the small Silver Creek information station (operated cooperatively by the NPS and the U.S. Forest Service (USFS)) is located outside the northern Highway 410 entrance. Some park information also is provided at the USFS building along Highway 410 west from Naches and at the USFS office in Enumclaw. The Enumclaw facility contains NPS offices space, a NWIA sales outlet, and limited exhibits. No introduction to park interpretive themes is provided at these facilities.

The USFS office in Packwood also offers some park information to visitors approaching the Ohanapecosh Entrance. This, however, is not an official NPS information facility, and currently visitors do not receive any introduction to the primary park themes. The Ohanapecosh Visitor Center is only a short distance from the Ohanapecosh entrance, but parking is limited.

Longmire

Visitors to Longmire can explore museum exhibits, obtain wilderness use information, take self-guiding walks, and participate in a variety of personal services interpretive programs. The museum exhibits have been redesigned, but in keeping with the historic character of the site, they have retained their 1930s WPA era appearance and content. The exhibits do not address today's themes nor do they adequately interpret the cultural significance and historic architecture of the site and other elements associated with the National Historic Landmark District designation. A recent park survey has shown that almost no visitors to Mount Rainier come away with a strong understanding and appreciation of the significance of this historic resource designation.

In addition to the exhibits, the museum building contains a staffed information desk and a small cooperating association sales area. The sales items are very limited, and there is little that focuses on the cultural elements of the park themes. Offices for staff are located on the second floor, but these are incompatible with the collections and archives.

The transportation exhibit in the historic gas station, the self-guiding walking tour and trail, along with the personal services programs attempt to convey the historic significance of Longmire. However, they are experienced by relatively few visitors.

The Wilderness Information Center (WIC) at Longmire contains an information desk, a small cooperating association sales area, and a large relief map of the park. The WIC is open from April-October during the peak visitor season.

Often during the winter, visitors need to wait at Longmire for the road to Paradise to open. Other than the lodge and museum, there is no convenient place for people to wait or get information regarding safety and resource protection issues.

Paradise

As one of the park's most popular destinations, Paradise is very crowded during the summer. The Jackson Visitor Center (JVC) is the primary interpretive

facility at Paradise, and essentially serves as the park's main visitor center. This huge circular building is difficult and expensive to maintain. Circulation patterns are confusing; the walkways do not meet accessibility standards; and, the information desk is in an awkward location. In addition, most of the interpretive exhibits are old, and most do not accurately or adequately address the primary themes and stories associated with the site. Because of the age and poor quality of the audiovisual program, poor lighting in the auditorium, and inadequate projection equipment, few visitors are inspired by the program. Some visitors, in fact, have complained about the poor visual quality of the film. In the summer of 1999, a Readers' Digest film was used as a temporary replacement for the park film "Fire and Ice," resulting in a significant reduction of complaints.

In addition, the center contains a cooperating association sales outlet, concession food service and gift shop, observation room, public showers, restrooms, storage, employee housing, and offices. The facility is open throughout the year, but only on weekends and holidays in the winter. In winter, part of the building is used as a staging area for popular guided snowshoe walks. Winter visitors also enjoy a maintained snow play area located nearby. In essence, the JVC functions primarily as a large warming and food service facility. Many winter visitors are local and do not enter the exhibit rooms or watch the film.

A planning process is currently underway to study alternatives to the future of the JVC. These alternatives may include replacing the structure.

Self-guiding trails and a variety of personal services programs are offered at Paradise. During the summer, evening programs are held at the lodge; however, many distractions from competing lodge activities diminish the quality of the interpretive experience.

Once the snow melts, the meadows at Paradise are spectacular. Paradise offers excellent views of the mountain and glaciers, and is a primary location for mountain climbers and guided climbing tours. Watching climbers also is a popular visitor activity, but Paradise's main summer attraction is the unparalleled wildflower meadows. Studies have shown uniformed rangers to be the most effective means of keeping people on trails, and resource protection duties are part of the Paradise interpretive programming.

Ohanapecosh

The Ohanapecosh Visitor Center is the main interpretive facility in the southeast region of the park. The center occupies a Mission 66 building which maintains an adequate and comfortable interior. From this facility, visitors cannot see the mountain, but it is an excellent place to experience the forest environment and learn about American Indian themes associated with the site and the park as a whole.

The current exhibits address American Indians and forest elements of the ecology theme; however, the displays are quite old and in need of replacement. A large relief model of the park also is outdated, but serves an important orien-

tation function. In addition, the visitor center contains a staffed information desk, cooperating association sales outlet, restrooms, storage, and offices.

Self-guiding trails and a variety of personal services programs are offered at the site. A large amphitheater in the adjacent campground is used for evening interpretive programs and for weekend junior ranger activities.

Sunrise/White River

The highest elevation interpretive facility in the park, the Sunrise Visitor Center, is open only during the summer. The site offers excellent views of glaciers and climbers as they make their way up their mountain, as well as opportunities to learn about many of the mountain's geologic processes and high elevation ecology. The Sunrise meadows are also a scenic attraction, and they provide opportunities to relate the meadows' importance to American Indian tribes of the region. Like Paradise, the White River area is a convenient and popular place for mountain climbers and guided climbs and hikes.

The exhibits in the Sunrise Visitor Center are quite old and outdated, and there is no audiovisual room. The building is closed and without heat or other climate controls for much of the year.

Self-guiding trails, and a variety of personal services programs are offered at the site. Evening programs are offered at the White River Campground, which has no audiovisual capabilities. The historic White River Patrol cabin contains exhibits which describe the park's patrol cabin and trails network.

Carbon River and Mowich

With the closure of the Wilkeson information station, there currently are no staffed interpretive facilities in the northwest sector of the park. Wayside exhibits, self-guiding trails, site bulletins, and limited personal services programs provide the bulk of the interpretive services in the Carbon River and Mowich areas. In the summer of 1999, the old amphitheater at the Ipsut Creek Campground was used for evening programs (no AV capability). Due to frequent flooding of the road, access to the area is not consistent.

Roads and Trails

Throughout the park there are a number of wayside exhibits that interpret significant resource features and provide information at trailheads, campgrounds, and picnic areas. The wayside exhibits represent a variety of styles and conditions. Some are quite old and/or damaged. Others are in awkward or difficult to find locations. Some trailheads are well marked, others are not. Many wayside exhibits must be removed for the winter to prevent damage from deep snow.

Education Program

While providing education programs is not new at Mount Rainier, changing demographics, emerging technologies, and national priorities demand new approaches and new ways of thinking. Efforts need to build on effective pro-

grams already in place, break new ground to better serve the public, meet agency goals and objectives, and address the primary interpretive themes.

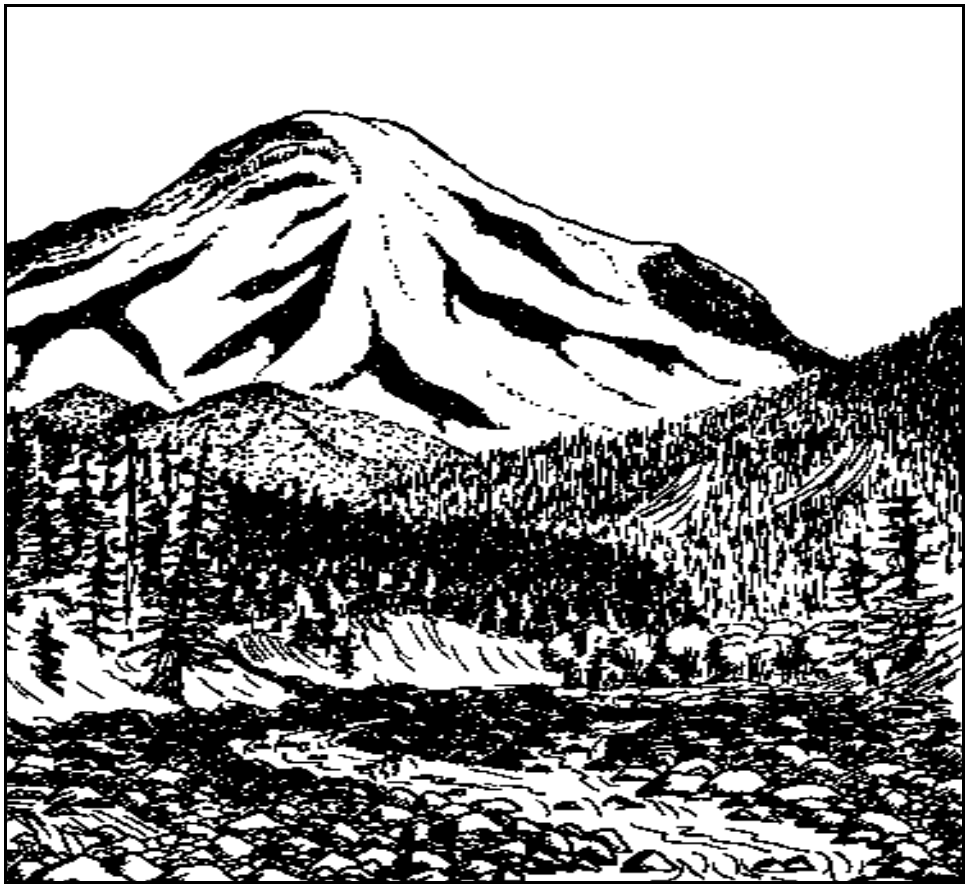
At the onset of this planning process, the park is seeking funding to develop an education center at Tahoma Woods for organized group visits. The park also has a Junior Ranger Program for general park visitors which is moderately well attended. The Junior Ranger booklet currently is being revised.

Personal Services

Throughout the year, but especially during the summer, visitors can experience a wide variety of personal service interpretive programs at Mount Rainier. Activities include guided walks, talks, demonstrations, and informal roving contacts. Offsite programs, special events, and curriculum-based education programs are vital elements of the overall personal services activities.

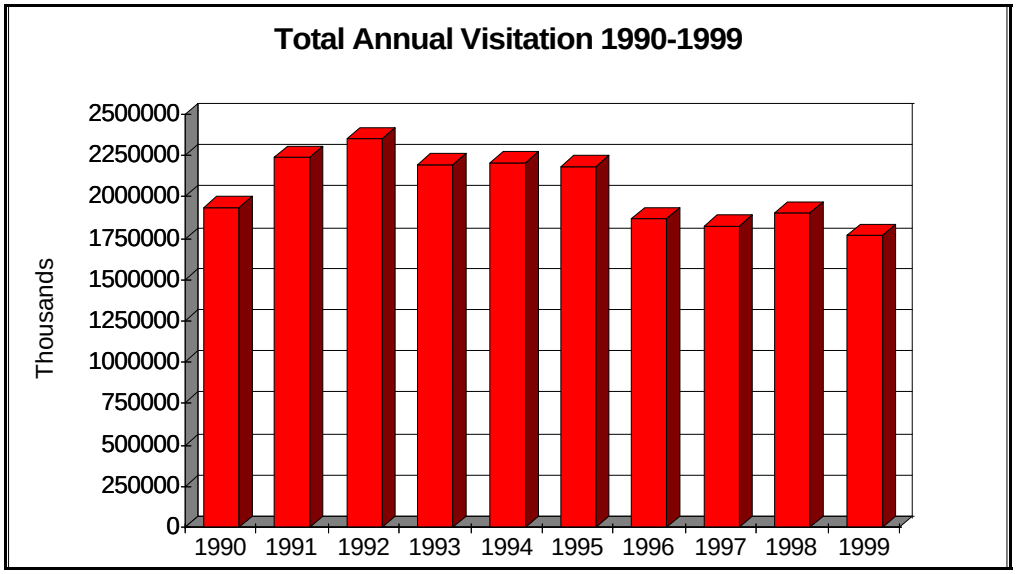
Partnerships

The overall information, orientation, interpretive, and education programs at MORA are enhanced by a number of partnerships with non-NPS entities. The recommendations in this plan not only stress the importance of continuing existing partnerships, but also identify areas where existing relationships can be strengthened and new partnerships established.

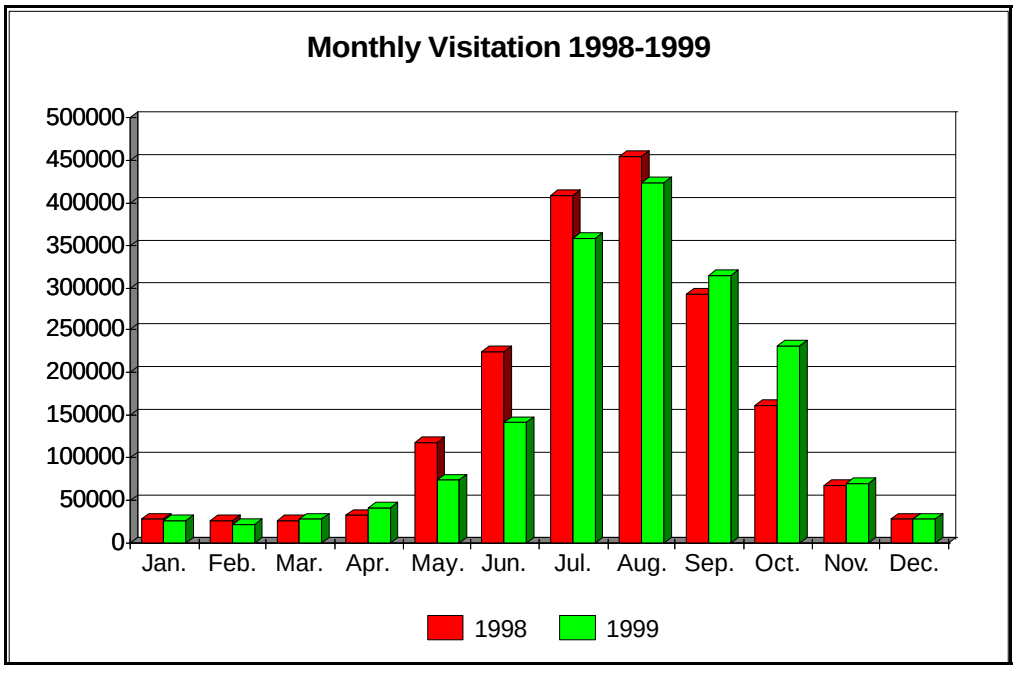


VISITATION & VISITOR USE PATTERNS

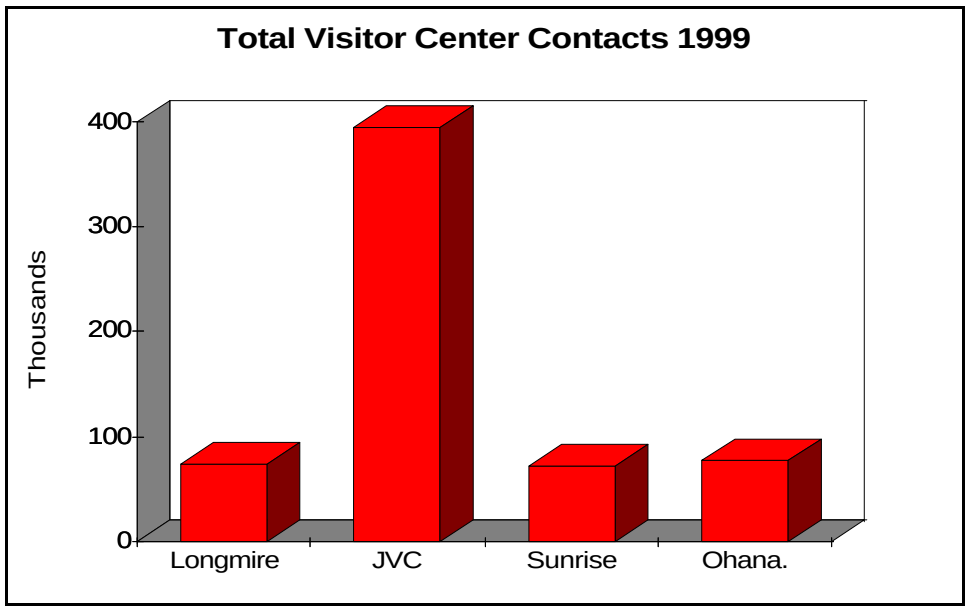
The following information regarding park visitors and use patterns is derived from various park surveys and documents, discussions with park staff, and data collected and maintained by the National Park Service Socio-Economic Services Division (WASO) in Denver. Also see Appendix B for a summary of social survey information relevant to MORA. The following chart shows total annual visitation for the ten-year period of 1990-1999:

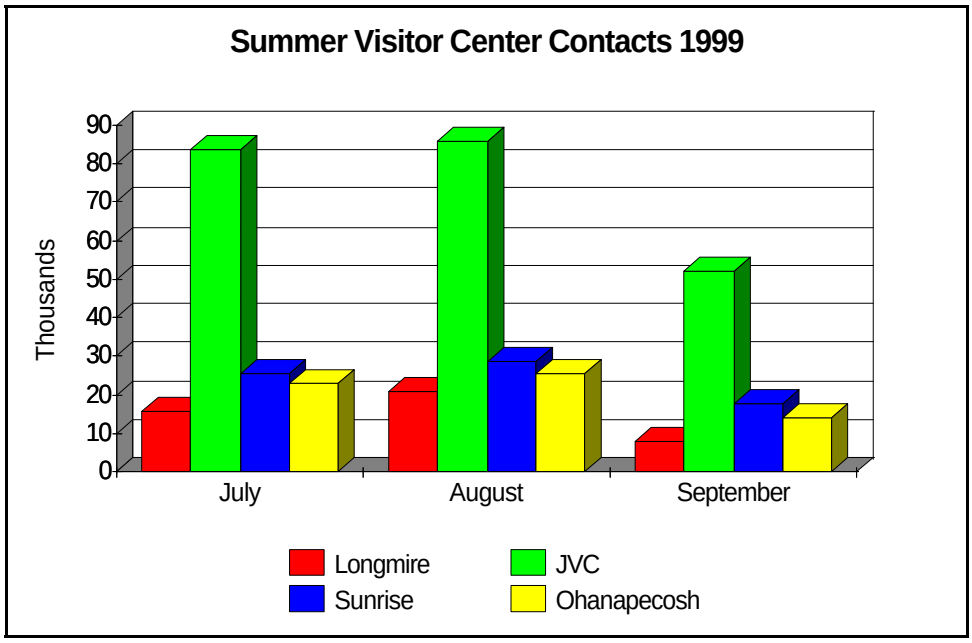


This graph illustrates total monthly visitation during 1998 and 1999:



The next two charts compare visitation at the four main visitor centers in the park. The first graph shows the total annual visitation at the centers. However, since only the Longmire Visitor Center is open all year (the others operating seasonally or on a part-time basis for portions of the year) the second graph illustrates the monthly visitation only from July through September, when all the centers are open.





The FY-99 Annual Interpretive Program Report lists the following numbers of visitor contacts:

Personal Services	
Visitor Centers/Contact Stations	698,002
Informal Interpretation	38,220
Formal Interpretation	43,386
Junior Ranger Programs	2,525
Special Events	2,825
Non-Personal Services	
Park Produced Publications	1,500,000
Audiovisual/Electronic Media	56,214
Outreach Services	
Community Programs	62,665
Park Web Site	2,771,760

The following statements are excerpted from the various visitor surveys and studies listed in Appendix B:

- Although visitors come from all parts of the nation, approximately 59% are from Washington State.
- Local residents from the counties of King, Lewis, Pierce, and Yakima make up 44% of the total visitation.
- About one-half of park visitors have a college degree.
- Age ranges included 64% between 2 and 49, 17% between 50 and 59, and 19% were 60 years or older.
- Family groups make up about 62% and groups of friends comprise 19% of park visitors. About 30% of the groups include children.
- Over 75% of park visitors stay less then one day, and about 66% stay less than seven hours. Only 14% of visitors stay overnight in the park.
- The most frequently used facilities in the park include the Jackson Visitor Center (51%), Paradise Inn (22%), and the Sunrise Visitor Center (19%).
- About 71% of park visitors visit the Paradise area.
- Approximately 44% of visitors have specific primary park destinations in mind, and of these, 27% have a day hike destination, 22% have a visitor center destination, 10% have a skiing destination, and 9% are going to an inn.
- The most frequently identified visitor activities were: driving to view scenery (80%), taking photographs (59%), visiting visitor centers or museums (58%), day hiking (51%), observing wildlife (47%), picnicking (30%), and souvenir shopping (35%).

- Eighty-one percent of visitors rate their park experience as good to excellent.
- During the summer, nearly 60% of visitors enter the park through the Nisqually entrance, resulting in long lines and congested parking lots, especially at Longmire and Paradise.
- Crowded conditions on sunny summer weekends lead to long waits for services (food, restrooms, information, etc.), as well as overcrowding on park trails.
- Tour buses regularly utilize the popular developed areas. Surges of passengers add to the congestion at many facilities (visitor centers, restrooms, restaurants, etc.) and on some trails.
- Fragile alpine meadows around Paradise, Sunrise, and Tipsoo Lake attract high levels of visitation. Overcrowding on summer weekends leads to parking shortages, fewer opportunities for solitude, damage to resources, and little contact with park staff.
- More than half of the park's winter use occurs at Paradise, although winter activities throughout the park are steadily increasing.

It should be noted that most visitor studies were conducted during specific, limited time frames, often during the peak tourist season. Readers of these studies (including the above statements) are cautioned about extrapolating the results as "universal truths" regarding visitor use during other time periods.

A comprehensive Visitor Services Project survey is planned for the summer of 2000.

IMPLEMENTATION STRATEGIES

The following is a description of program and media recommendations designed to further define, support, and implement the mission, goals, themes, and objectives of the interpretive program for Mount Rainier National Park. The discussion of each program or media proposal identifies its purpose, special considerations, and sometimes suggests means of presentation. It is important to remember that the latter are only suggestions, and should not in any way limit the creativity that is essential during the media or program design processes. On the other hand, most proposals will be specific enough to define parameters in which these creative energies can flow.

A number of proposals address the American Indian peoples (past and present) who have strong associations with the mountain and the surrounding area. It is essential that the park initiate and maintain a continuous dialogue with area tribes regarding the planning, design, and production of theme-related interpretive media and programs.

INFORMATION AND ORIENTATION

General and trip planning information regarding Mount Rainier National Park will continue to be provided through traditional means by answering regular mail and telephone requests. Due to the volume of phone calls, the park will continue to utilize an automated routing menu; however, ways to make the system more efficient and convenient in directing callers need to be explored.

Responses to written requests by U.S. mail and e-mail will continue to be tailored to individuals. The park, however, will also continue to have standard packets and responses available for more common requests for camping and lodging information, and for students seeking park information for school assignments. Supplies of education materials (i.e., the Educator's Guide and CD-ROM) also will be maintained for answering teacher and group leader information requests. In addition, the park will provide much of this information on its web site, where people can read and download specific materials. Responses to phone, e-mail, and written requests also will include mention of the web site as a source of additional information. This practice could result in reduced costs of printing, paper, and staff time in handling information requests.

The park will continue to maintain its web site which contains a wealth of general, trip planning, resource, educational, and theme-related interpretive material, as well as links to many related sites. Staff will continue to work on improving the site and incorporating additional topics such as elements of the education programs, virtual tours of special exhibits, geo-hazards, real-time updates on road conditions, etc. The web site can become a very important pre-arrival tool, and daily updates are essential.

As visitor services and facilities change, modifications to the trip planning elements of the web site could inform prospective visitors of any new facilities, closed areas, and alternative destinations in the area. Strengthening the links with other regional agencies, communities, and visitor attractions will help people make more informed decisions, distribute park use during peak periods, and enhance the overall visitor experiences.

On a regional scale, park information would continue to be placed in area tourism offices, chambers of commerce, visitor/information centers, agency offices, and at major attractions and lodging facilities. A key publication in this regard is the park newspaper The Tahoma News. Unlike the official park folder, which is often in limited supply, the newspaper and/or rack cards can be more widely distributed and can focus more on changeable information. Future editions of The Tahoma News also could include a good map of the region, and partnerships with outside entities could help pay for a separate page on area services and attractions. Participating partners also could explore the enhancement of existing literature and/or the development of a new multi-agency brochure outlining where visitors can get more information about the park, other regional resources and attractions, lodging, etc.

This plan recommends the establishment of a multi-agency partnership to function as a clearinghouse for regional information. This group of area information providers would assess regional information needs and evaluate materials which are successful and unsuccessful in meeting visitor needs.

The partnership with the interagency Outdoor Recreation Information Center, located in the downtown Seattle REI store, will be expanded to meet additional park needs, such as the sale of annual park passes and perhaps assistance with backcountry use permits. The staff of the center will work closely with the park so detailed information can be provided for advance trip planning.

There is a wealth of regional, national, and international literature (including web sites) describing and/or marketing the park. Sometimes those preparing this information consult park staff, or at least request periodic reviews. To the extent possible, the park needs to ensure that printed and electronic tourism literature promoting the park is accurate, adequate, appropriate, and up-to-date. This, and many of the other activities/proposals in this section could be performed by a park public information office—a position which does not currently exist.

Improved highway signing and new Travelers Information Stations (TIS) on the east side of the park are needed to direct visitors to the park. The park also needs to work closely with others in the region to provide good maps, to consistently mark good routes for reaching the park, and to utilize signs and area information centers to alert visitors to any peak time, park closures, and alternative travel options.

Inside the park, the directional signing program should be evaluated to ensure that it is standardized throughout. The signing and approaches to the major

facilities, trailheads, overlooks, etc., will clearly indicate where visitors are to turn, park, and locate facilities. Signs also should clearly inform visitors of the need for backcountry permits and direct people to the WIC's before they get to the trailheads.

INTERPRETATION

The following describes interpretive recommendations for the various facilities and venues throughout the park. This is a site-based narrative directed primarily toward linking the media and program proposals to the visitor experience. As a cross-reference, Appendix E displays a chart which illustrates how the media recommendations are tied to the primary interpretive themes. Visitors generally experience a park not by exploring each individual theme, but by traveling to the different sites; however, the chart serves as a check to see where and how each theme is addressed at the various sites.

The planning team was fortunate to have Carolyn Driedger, a hydrologist with the U.S. Geological Survey, as a participant. Carolyn has developed a list of theme-related geology exhibit and wayside exhibit concepts/ideas for Mount Rainier. Some of these ideas are discussed below, but the entire list is found in Appendix C. Before planning interpretive media for other primary themes, similar analysis and notes should be made.

The park will continue providing memorable experiences via personal interpretive programs and informal interpretation that facilitates connections between the interests of visitors and the meanings in the resources. These types of programs will continue to be a cornerstone of the Mount Rainier experience.

Longmire

The Longmire Museum will continue to be the primary interpretive facility at this site. Longmire is a centerpiece for the National Historic Landmark District, and for interpreting the history of the park. The current exhibits will be redone to better reflect the totality of the human presence, the significance of the park's built environment, and people and events associated directly with Longmire while retaining the 1930's era style.

Any new interpretive media will respect the historic integrity of the site. This will exclude the use of modern, high-tech elements such as interactive computer stations. The park does have some original film footage showing the construction of some of the infrastructure that is now part of the historic landmark designation, as well as scenes of early park visitors, etc. In addition, some oral history recordings exist of people associated with the early days of the park, and more should be collected. This data could become exciting elements of the new exhibits, which could be developed in ways to compliment the site's historic character. Additional historic photos could be simply displayed via captioned photo albums for visitors to examine.

While the primary interpretive emphasis will be on the history of the park, Longmire also is an excellent place to relate aspects of the ecology of nearby

mineral springs and old growth forests. Self-guiding interpretive trails in the area will focus on both the history and ecology themes, perhaps emphasizing how one has affected the other in this area.

Personal services interpretive programs will continue to include ranger-guided walks and talks, but this would be expanded to include costumed and living history programs and demonstrations. Special activities utilizing "old timers" will continue to help people visualize Mount Rainier National Park in an earlier time.

Many people who visited the park in the early days, along with early employees and others who were directly or indirectly involved in building the park's infrastructure are still living in the region. Several American Indian tribes in the region also have a rich oral tradition which includes strong connections with the mountain. All these people have important stories to tell and represent a knowledge base that is slowly disappearing. To help capture elements of this rich heritage, the park needs to increase its efforts (perhaps through partnership agreements with area colleges) in conducting and transcribing oral and/or video history interviews.

The current exhibits in the historic Longmire gas station are adequate and could be retained. As an alternative, a historic furnishing report (possibly developed through Harpers Ferry Center) would determine the feasibility of adding furnishing elements to the current exhibit, or possibly furnishing the whole interior. If determined feasible, then a historic furnishing plan and treatment could be commissioned to acquire the proper objects and place them in the room.

Another historic furnishing option to explore is the creation of a 1920's to 1930's ranger quarters in one of the historic cabins. A separate historic furnishings report would assist in determining the feasibility of this option.

The National Park Inn also is an excellent place to provide some interpretive/informational services. The park should ensure that concession employees and guests have access to accurate and current information about the park, the Longmire area in particular, and the interpretive program activity schedule. Staffs should work together in discussing the interpretive value and/or content of interior wall decorations, information about the historic buildings and landmark district, and reading materials in rooms and food service areas. The inn area also will be considered in developing the parkwide wayside exhibit proposal and plan.

Paradise

Interpretive media and programs at Paradise will focus primarily on sub-alpine ecology, the site's spectacular meadows, and on the prominent geologic resources and processes. Besides enjoying exhibits and audiovisual media inside the visitor center, people will be encouraged in summer to get outside and experience the "real thing."

Visitors will gain an understanding and appreciation of the complexity and diversity in the meadows, their fragility, and how these meadows differ from those in other parts of the park (i.e., Sunrise). People also will learn about past and current research and management strategies designed to protect these areas, including the meadow revegetation project. Since the meadows lie under the snow for much of the year, interpretive media may provide the only way for many visitors to see them. Conversely, summer visitors may find it hard to imagine the vast amount of snow covering the meadows in the winter. Photos of winter use at Paradise would not only show how dramatically different the area is, but might also encourage visitors to experience the park during the non-peak seasons. Interpretation of winter ecology and snow should be stressed.

Interpretation of the geology theme will stress the features and processes tied directly to the resources at Paradise. Special emphasis will be placed on some of the key geologic research projects and what has been learned from them. New visitor center exhibits would explain the nature of the Nisqually glacier: how it is formed, how it moves, why it is changing in size, how it shapes the landscape, what new research has revealed, etc. People will understand the conflicting dichotomy of volcanics and ice on the mountain and will appreciate the nature of existing geo-hazards of this active volcano. Visitors will learn why most of the rocks at Mount Rainier come from the same source but look very different. Our understanding of how glaciers interact with lava flows and thus influence the shape of the mountain would be interpreted here (see Appendix C).

The understanding of some of the geologic concepts and processes (i.e., glaciation, volcanism, lahars, etc.) could be enhanced through such things as time-lapse photography, film/video, interactive models, computer simulations, and before/after graphics. Research instruments can attract visitor attention, provided they are adequately interpreted. If they just sit there, or if they do something that is not explained, the instruments will have little meaning to most visitors. Consideration will be given to including some of these technologies in the new exhibits. This will include a new film, perhaps emphasizing the geology, but also showing how the geologic forces influence the ecosystem.

Outside, there is an excellent opportunity to develop a self-guiding interpretive trail to follow the movement of the Nisqually glacier. Wayside exhibits or a publication supplemented with wayside exhibits could include photos and illustrations showing how far the glacier has moved and how it has changed the landscape. If a self-guiding brochure is developed, it should be prominently displayed in the visitor center, the inn, and perhaps in a dispenser at the trailhead. Wayside exhibits will provide additional information at key locations, and also will offer some interpretation for visitors who walk the trail without a brochure.

The wayside exhibit plan also will address the interpretation of the various historic structures at Paradise. In addition, improvements to directional signing for pedestrians will be studied with the park sign maker.

Paradise is an excellent place to view and interpret climbing and winter recreation at MORA. Wayside exhibits on climbing and winter use will be developed at prominent viewpoints. A wayside exhibit outside the climbing permit station at Paradise will identify the building's function and provide some climbing safety information. In the visitor center and/or the Guide House, the many aspects of climbing, including techniques, evolution of equipment, videos, etc., are easy to exhibit, and can be supported by many objects in the park's collection. A tasteful memorial to those who have lost their lives on the mountain should be considered for the Paradise area.

The JVC will remain in operation for several more years. In the best interests of providing a quality visitor experience, the park is replacing many of the current exhibits and audiovisual program in the building. Technical assistance for exhibit planning, design, and fabrication is provided by Harpers Ferry Center.

The following short-term changes to the JVC are underway:

- Replace the exhibits on the second level; retain the ecology exhibit on the third level.
- Complete the transfer of the "Sunrise to Paradise" exhibit from the Washington State Museum to Tacoma. (Note: Only portions of this exhibit may be appropriate for use at the JVC.)
- On the observation deck level, develop low-cost interior wayside exhibits on climbing, winter use, and other topics related to features in the viewshed. Some of the Tacoma exhibits also could be used here.

The interpretive staff at Paradise also will continue to offer a variety of year-round personal services programs. In summer, roving interpretation has the advantage of placing staff where most people concentrate and in sensitive resource areas. As individual talents and budgets vary from one season to the next, the number and types of activities will change from year-to-year. Personal services programs also will continue to take advantage of ongoing research, and to utilize the special knowledge and talents of researchers, partners, and staff in other park operations.

The Paradise Inn also is an excellent place to provide some interpretive/informational services. The park will ensure that concession employees and guests have access to park resource training materials, accurate and current information about the park, the Paradise area in particular, and the interpretive program activity schedule. Staffs will work together in discussing the interpretive value and/or content of interior wall decorations, information about the historic buildings and landmark district, and reading materials in rooms and food service areas. The inn area also will be considered in developing the parkwide wayside exhibit proposal and plan.

Sunrise/White River

Sunrise cannot be beat for the sheer drama of its geologic story. Although portions of the geology theme will be interpreted at Paradise (with special empha-

sis on current research) and at key locations along park roads, Sunrise will capitalize on the historical geology of the mountain as it relates to what visitors see at the site. Other key theme-related interpretive topics at Sunrise include sub-alpine ecology, and the past and present significance of the site to American Indian tribes in the region.

Visitors will gain an understanding and appreciation of the complexity and diversity in the sub-alpine meadows, their fragility, and how these meadows differ from those in other parts of the park (i.e., Paradise). People also will learn about past and current research and management strategies designed to protect the meadows.

Visitors will understand and appreciate how various Indian tribes have used the site for hunting and gathering, their relations with the NPS, and their spiritual ties with the mountain which continue to the present. Emphasis will be placed on how the archeological record and oral and written histories are enriching our knowledge and understanding of these native peoples and their interactions with other cultures and the land.

Sunrise is also a good place to observe climbers on the mountain and to learn about the history of this popular activity at Mount Rainier.

To present elements of these themes/stories, this plan proposes a redesign of the interior of the Sunrise Visitor Center. This redesign will not make changes to the historic fabric, but will require the following functional interpretive areas:

- Staffed information desk equipped with telephone, storage for literature, and cash register for cooperating association sales.
- Lobby with room to accommodate bus groups, organize guided tours, and provide information/orientation exhibits, possibly including a topographic relief map.
- Exhibit areas for permanent and changeable interpretive displays.
- Cooperating association sales outlet/bookstore, including separate office for handling money.
- Comfortable seating in front of the large stone fireplace for drying out and warming up.
- Storage for sales and free literature.
- Storage for interpretive props and demonstration materials.

Since no changes or additions are proposed for the building, planners/designers will need to work with the existing space. Other constraints include the fact that the building is closed and unheated for much of the year. This may preclude the use of some types of objects, or at least necessitate the removal of some items at the end of each season. Care will be needed in considering the use of any high tech media, which also may need to be removed at the end of each season. Electronic devices may be subjected to power surges; and, anything chosen will need to blend well with the rustic setting.

There is no room in the visitor center for an audiovisual theater; however, audiovisual elements could be incorporated into some of the exhibits. A small AV alcove also could be considered. The use of non-intrusive audio will need to be carefully considered in such a small space.

A separate planning effort may be needed to solve some of the storage and office space deficiencies. Improvements to the existing telephone system also may require separate study.

Sunrise will be an important component of the parkwide wayside exhibit proposal and plan, which will assess all existing wayside exhibits and make recommendations for new ones. The tradition of labeling native plants will continue where appropriate. Wayside exhibits also will be considered in providing supplementary interpretation along self-guiding trails. One such trail would give visitors a tour of the historic structures at Sunrise.

The Mount Fremont Fire Lookout is a popular destination for visitors to Sunrise. It is the location of an advertised “wildlife watch” interpretive program, and has the potential to interpret fire ecology. A historic furnishing study will assess the potential for re-furnishing the tower or at least adding some furnishing elements to the space. The use of reproduction pieces also will be explored. Allowing visitors or staff to use reproduced fire detection instruments would add an interactive dimension to the interpretive experience. A wayside exhibit will interpret the tower, even when it is not open.

With the installation of interior and exterior interpretive panels at the White River Patrol Cabin in 1999, this historic structure is now capable of providing self-guiding interpretive information about the park’s trail and patrol cabin network. The existing wayside exhibits will be supplemented with other text/graphic panels recommended in the site interpretive plan. Methods to provide additional lighting and some furnishings also will be explored. Due to the high level of geo-hazards, the shortage of parking and personnel for staffing the facility, this plan does not recommend any further development of the cabin beyond that described above. Campground staff will open and close the facility and provide periodic checks while roving in the campground. Interpretive and/or maintenance staff will provide limited maintenance for the building.

The WIC, located at the White River Ranger Station, will continue its primary function as a wilderness use permitting center. To supplement the information provided at the site, some interpretive displays and an audiovisual program could focus on geo-hazards, wilderness safety and ethics, and climbing. Due to the small space, the displays would consist mainly of text/graphic panels. The audiovisual program might be shown as a computer power point presentation, which could be tailored and/or duplicated for different areas of the park.

The interpretive staff at Sunrise will continue to offer a variety of personal services programs. In summer, roving interpretation has the advantage of placing

staff where most people concentrate and in sensitive resource areas. As individual talents and budgets vary from one season to the next, the number and types of activities will change from year-to-year. Personal services programs also will continue to take advantage of ongoing research, and to utilize the special knowledge and talents of researchers, partners, and staff in other park operations.

Partnerships with area tribes will be critical in interpreting the American Indian connections to the Sunrise area. Official tribal consultation will be necessary in the development of interpretive media and programs. Some of the stories may be told best through personal services programs or demonstrations presented by members of individual tribes. Also, the various tribes will be consulted regarding native names (and their meanings) for various features in the park. These names could be used in addition to their Euro-American counterparts on a number of the wayside exhibits and other interpretive media throughout the park.

Ohanapecosh

Forest and river ecology has been, and will continue to be the primary interpretive focus at Ohanapecosh. The significance of the nearby hot springs will be interpreted, not only from the context of their relation to the ecology theme (including the fact that they have no connection to Mount Rainier's volcanic heat), but also from the historic and prehistoric human perspective. The current booklet could be replaced with wayside exhibits.

The connections of regional American Indian peoples to this site and to the mountain will be interpreted. Nearby archeological sites, fishing stations, and the historic use of the area for gathering peeled cedar bark are but a few examples of these strong American Indian associations. Visitors could appreciate how the bark was peeled and woven into baskets used to gather berries and other materials higher on the mountain.

The interior of the Ohanapecosh Visitor Center will be redesigned and equipped with new media. Existing functional interpretive spaces will be retained, including:

- Staffed information desk equipped with telephone, storage for literature, and cash register for cooperating association sales.
- Lobby with room to accommodate bus groups and provide information/orientation exhibits, including a topographic relief map.
- Exhibit areas for permanent and changeable interpretive displays, possibly including some audiovisual elements.
- Cooperating association sales outlet/bookstore, including separate office for handling money.
- Office/work space for NPS staff.
- Storage for sales and free literature.

- Storage for interpretive props and demonstration materials.

The building does not have a theater; however, a small video alcove could be incorporated into the new design. A new audiovisual program will be developed for the site, highlighting elements of the site themes. Another option (primarily for visitors arriving through the eastern entrances) would be to show the new parkwide AV program here. Other AV elements (with or without sound) could be integrated with some of the exhibits. This could include footage of cedar bark peeling and weaving and/or historical scenes of the hot springs.

A new or revised topographic relief map is proposed for Ohanapecosh. Since the mountain cannot be seen from here, the map will help orient visitors and illustrate the physical and ecological connections with other areas of the park and region.

Ohanapecosh will be included in a parkwide wayside exhibit and plan. Wayside exhibits will be considered for use on self-guiding interpretive trails, where they would provide the main messages or perhaps supplement information in a trail publication. A new trail is proposed from the ranger station to the visitor center.

Except for upgrading the audiovisual equipment, only minor changes are proposed for the amphitheater, including some leveling and repairing of the blacktop walkways, and replacing some benches. This facility will continue to be used for evening programs and for various daytime interpretive activities.

Personal services activities are an integral part of the interpretive program at Ohanapecosh, and contribute greatly to the family atmosphere of the site. In addition to the variety of activities currently provided, the park will explore involving the associated American Indian tribes in scheduling interpretive programs and cultural demonstrations. The establishment of partnerships in this area will contribute greatly to enhancing visitor understanding of the past and continued connection of Indian peoples to the park. The tribes also will be actively involved in the planning and design of the overall interpretive media and programs for the site.

Education Program

The vision statement for the park's education program states that:

> *Mount Rainier National Park will become a premier education resource, outdoor classroom and learning laboratory for educators and students of the greater Puget Sound area and beyond. This ultimately will result in greater protection of natural and cultural resources both inside and outside the boundaries of national parks.*

Overall program goals and objectives for the education program are to:

- Provide teachers and other educators with the knowledge, skills, and confidence to use the park as an outdoor classroom, facilitating opportunities for direct personal experiences with park resources, thereby increasing aware-

ness, understanding, and stewardship for this and other NPS areas by youth and educators alike.

- Provide professional development opportunities for educators in order to facilitate the above.
- Develop a park curriculum and education program that is aligned with and meets district, state, and national education standards. (Washington State has mandated environmental education curriculum requirements and standards.)
- Create an education advisory network and build partnerships with other educational entities.
- Provide on- and offsite educational programming.
- Develop a park education facility to house and operate the program.
- Target traditionally underrepresented groups.
- Incorporate other NPS educational strategies and efforts, regional and national scope, such as the Messaging Project, Connecting People to Parks, Natural Resources Challenge, NPS Education Strategy, etc., into the park education plan and program.

With regard to the above, this plan recommends a significant expansion of the park's formal education programs for multiple age groups. There is great potential to foster stronger relationships with the education community throughout the region, which includes one of the largest metropolitan areas of the western United States. Computer technology also allows a worldwide audience to participate in elements of park education programs, even though many students may never have the opportunity to visit in person.

To be successful, an expanded park education program will require additional staff (see staffing section). The new education coordinator will be responsible for setting up a steering or advisory committee with area educators and other park staff to produce a formal education plan for Mount Rainier. Once established, the coordinator will be responsible for managing both the on- and offsite components of the program. The coordinator also will be heavily involved in the planning, design, and development of an in-park education facility at Tahoma Woods.

The development of curriculum-based activities will form the core of the education program. These activities will be produced in partnership with area educators, who are most knowledgeable of school curricula and workload requirements. Other agencies, such as the U.S. Geological Survey and the U.S. Forest Service, along with some private non-profit entities, have educational programs and materials which focus on the park and park resources, and should be enlisted as partners in coordinating efforts. In addition, the park will work closely with the NPS regional education specialist, who will be assisting multiple parks, and serving as an urban (Seattle-Tacoma area) education coordinator.

The partnership arrangement will seek to make use of existing education programs and materials. Some excellent materials are already available, and it would be foolish to duplicate efforts unnecessarily.

Other major responsibilities for the education coordinator and steering/advisory committee will include:

- Encouraging school field trips to the park.
- Planning and conducting teacher workshops.
- Overcoming the cost of transportation for bringing school groups to the park.
- Providing on- and offsite resource materials to educators in an efficient, cost-effective manner.

Some initial actions will include reaching out to the local communities and reestablishing contacts with educational groups. A resources guide to the various programs and advice on planning a field trip to the park will be developed. Various strategies, such as grant applications, could explore cost-sharing alternatives for providing transportation.

Incentives to attend teacher workshops will be explored. Workshops could be scheduled as an alternative activity to in-service teacher workdays. Annual park passes could be provided to participating teachers, so they could visit the park on their own or with their families. Workshop attendees could receive free curriculum guides and other lesson-planning materials. Training could be designed in partnership with area universities to provide academic credit to participants.

Elements of the education program will be available through the park web page. Some materials would be free and could be downloaded by anyone. Other materials could be advertised for sale through the cooperating association. Although web materials can reach worldwide audiences, one special audience would be school groups in Japan as an education link between the potential sister parks (MORA and Mt. Fuji).

The teacher workshops could utilize sister agencies in the region and some of the retired NPS interpreters who still live in the area. In addition, park staff from other operating divisions (i.e., resource management, protection, and maintenance) could be given the tools to assist occasionally with on- and offsite programs. Some of these people currently give talks to schools, and creating closer ties to the education program will be an advantage to all. Eventually, additional staff will be needed to coordinate the on- and offsite programs.

As stated earlier, the park has initiated plans to develop an education center at Tahoma Woods. The facility will have a reserved classroom/laboratory section for school and adult groups. The primary function of the building will be for curriculum-based education programs, and it will be designed to accommodate up to 30 learners. In addition to use by school groups, the facility also will be available for educator workshops, family education programs, elder hostels,

institute-type classes, staff training, and other youth programs.

Although the Junior Ranger Program is an informal interpretive activity, it definitely constitutes an important part of the overall education program at Mount Rainier. Focused on children, the program is designed to foster stewardship and to show that kids can make a difference. The park will strive to develop Junior Ranger Program elements at each major interpretive facility in the park.

Many of the activities in the education center, as well as in the other park visitor centers, will utilize interactive modules, and emphasize kids teaching kids (in person or recorded). How a volcano works, safety in geo-hazard areas, people of the past, natural communities at Mount Rainier, what park people do, and how to become a park ranger are some of the specific topics which could be addressed in exciting and interactive ways. The center will be an excellent place to show videos such as "Lost but Found, Safe and Sound." All presentations will relate to park themes.

Besides the programs for youth, this plan recommends the establishment of a Mount Rainier Institute for adults. The Tahoma Education Center would provide a meeting place, with the potential for lodging available nearby during non-peak times. If the logistics can be worked out and an adequate education staff provided, the wealth of subject matter expertise in the region could produce a highly viable institute program.

Roads and Trails

Since driving the scenic roads and hiking are two of the most popular visitor activities at Mount Rainier, it is important that information and interpretive messages associated with these experiences meet visitor needs and relate appropriate theme elements. Many of the most significant resources, including numerous geological features, are found along the roadways and trails, and, therefore, are the most logical places for interpretation.

The parkwide wayside exhibit proposal and plan will assess all existing wayside exhibits along park roads, trails, and trailheads, and make recommendations for new ones. In some cases the same exhibit panel may be replicated at different sites. Areas deserving particular attention include West Side Road, Kautz Creek, Sunshine Point, Ricksecker Point, Narada Falls, Reflection Lake, Box Canyon, Mowich Lake, Tipsoo Lake, and the Carbon River Road. The plan also would address the need for portable and/or short-term wayside exhibits to interpret sudden or unpredictable events such as avalanches, lahars, etc.

All major trailheads should have an informational wayside exhibit to give safety information, length and difficulty of trails, appropriate rules and regulations, and descriptions of the main features/destinations en-route. Some of the wayside exhibits may have maps showing the route of a trail, including any major intersections, and possibly a bulletin case for posting seasonal or other changeable information. Self-guiding interpretive trailheads also may have a trail guide brochure dispenser nearby or attached to the wayside exhibit during

summer.

Wayside exhibits at roadside overlooks will be easy for visitors to locate, and will interpret prominent features in the landscape/viewshed. The interpretive staff, in consultation with the park sign maker, landscape architect, and others, need to explore ways to alert visitors of up-coming overlooks, especially those that have interpretive messages.

Campgrounds and Amphitheaters

Informational wayside exhibits will be located at each of the park's primary campgrounds. The number, style, and placement will be determined by the parkwide wayside exhibit proposal and plan. The campground exhibits will probably include bulletin cases for posting seasonal and other changeable information. This will provide places for posting interpretive activity schedules and announcements of special events.

A new amphitheater is recommended for Cougar Rock and for the campground at Ipsut Creek. The Ohanapecosh amphitheater is in good shape, but all park amphitheaters need upgraded sound equipment. Rehab work also is needed at the White River amphitheater, but it will not include adaptations for electricity or a sound system.

Publications

Numerous references to various publications have been made throughout the document. Some have included:

- Making periodic revisions to the official park folder.
- Re-designing the park newspaper to focus more on trip planning, activity schedules, changing information, and incorporating a park/regional map.
- Standardizing the format and design of park site bulletins, and developing panels to display them.
- Considering the park web site as an electronic publication which can integrate various site bulletins, education programs elements, activity schedules, bibliographies, etc.
- Producing some of the key publications, especially those related to safety issues, in multiple languages.

Other free publication needs include:

- Developing park rack cards for use in area tourism centers and attractions. These items are less expensive to produce, and can be supplied in greater numbers than the official park folder.
- New site bulletins that address primary theme elements, especially geology, geo-hazards, glaciers, American Indians of the region, etc.
- Park-related literature provided in concession food service areas and lodges. These include things such as table tents and place mats in restau-

rants, and packets of material placed in individual rooms.

The Northwest Interpretive Association (NWIA), the park's cooperating association, will continue to offer a wide selection of theme-related items through sales areas in each of the park's visitor contact facilities. Each of these sales areas should be viewed as another interpretive exhibit—pieces of which people can buy and take home. The association needs to periodically evaluate its inventory to ensure that the range of sales items is addressing each of the interpretive themes, and reaching a variety of age, interest levels, and price ranges. Tools already exist to perform these types of evaluations.

Specific sales publication needs identified during this planning process include:

- Greater variety of items on geology, glaciers, and geo-hazards, especially items which reflect what has been learned from recent research.
- Items regarding the various American Indian tribes that have strong connections to the mountain.
- Publications, similar to the new "100 Years at Longmire Village," which relate aspects of the park's human history and the significance of its architecture.
- An official park handbook (as part of the NPS series).
- Items, such as CD-ROM's, on wilderness use and appreciation, historic photos, and other items in the park's collection, etc.
- A definitive guide to park natural history, including plant and animal identification.
- Natural history items for children.

Partnerships

The implementation of this long-range interpretive plan will depend on the continuation of existing partnerships with others and the establishment of new ones. Many of these cooperative efforts have been discussed in other sections of this plan.

Partnerships are successful when all parties contribute and gain from the alliance, when all parties are involved in defining the goals and responsibilities of each participant, and when there is a continuous liaison among all participants.

For interpretation, these special arrangements can include coordinated efforts in providing information, orientation, education, training, research, special and outreach programs, personal services activities, and media planning and development.

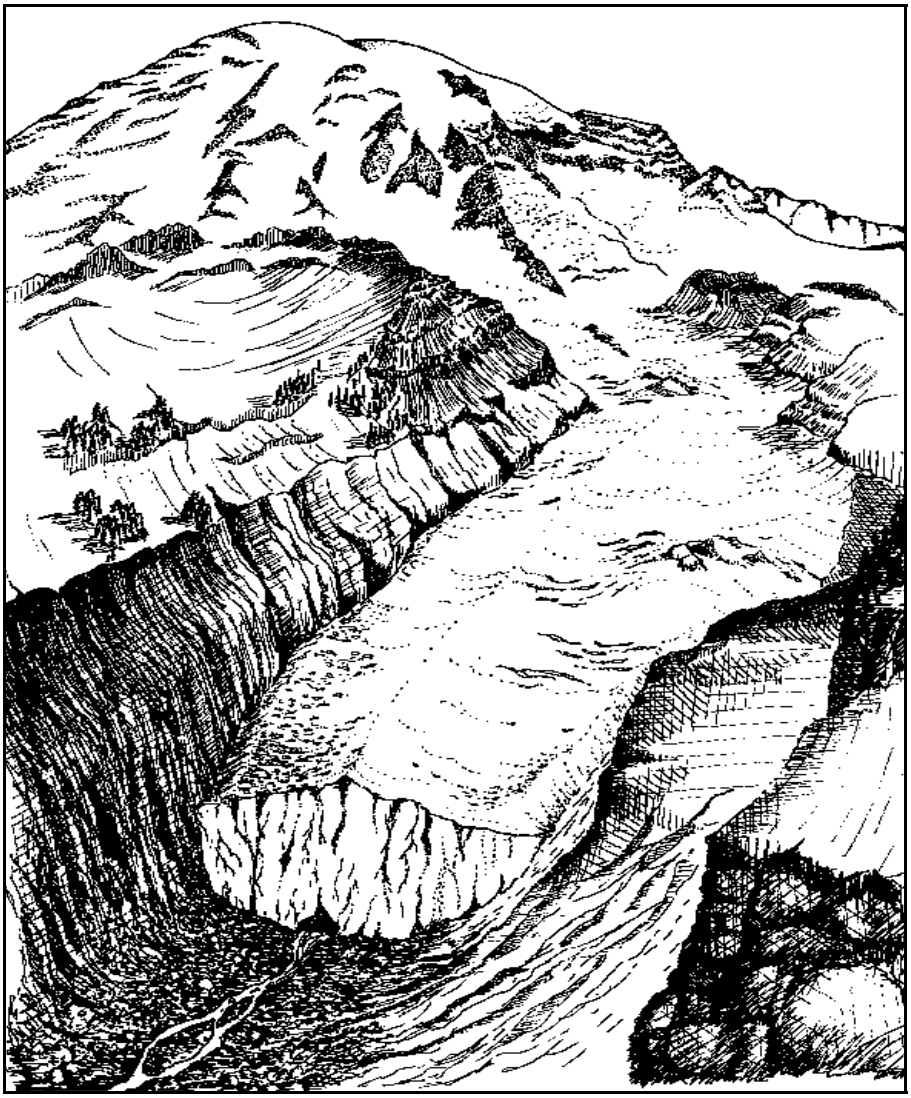
Partnerships with universities, agencies and other scientific organizations will be forged to ensure availability of up-to-date resource information. For example, Mount Rainier and the U.S.G.S. Cascades Volcano Observatory could

work in concert to update interpretive materials.

A number of public and private partners and tour companies provide regional and park tours and activities. Examples include the Train to the Mountain, climbers who enter the park on RMI shuttles, and tour buses that access gateway communities and the park. The park will seek opportunities to provide assistance with training, planning, and evaluating the interpretive components of these services. Park interpreters also will work in partnership with local businesses, agencies, and organizations to ensure the park's interpretive messages reach diverse audiences.

Outreach

The park recently initiated an outreach program to convey basic park values to constituents, to develop open and trusting relationships with diverse populations, and to foster park stewardship. One component of the initiative involves



meeting with culturally diverse groups to learn what connections they have or could have with park resources. The park will strive to develop those connec-

tions through interpretation, education, and outreach.

Special Populations

Provisions will be made to accommodate the needs of special populations who visit Mount Rainier National Park. Special populations are identified as those with sight, hearing, learning, and mobility impairments; visitors who do not speak English; and the elderly and young children.

Accommodations will be made for access to the sites, as well as to most of the interpretive media. Guidelines and regulations are available to assist staff and media/facility designers. Generally, these accommodations will benefit all vis-

itors.

Public Law 90-480, the Architectural Barriers Act, and the Americans with

POSITION	EXISTING	NEW	TOTAL
Chief of Interpretation	1	0	1
Assistant Chief of Interpretation	1	0	1
Secretary	1	0	1
Interpretive Specialist	1	0	1
Media/Design Specialist	0	2	2
Education Specialist	1	0	1
Education Coordinator	0	2	2
District Interpreter	2	1	3
Park Ranger, Interpreter	1	1	2
Park Guide	2	0	2
TOTAL PERMANENT	**10** (10.0 FTE)	**6** (6.0 FTE)	**16** (16.0 FTE)
Seasonal Park Ranger, Interpreter	22	6	28
Seasonal Education Technician	0	4	4
Seasonal Outreach Interpreter	1	0	1
Seasonal Step-on Guide	0	1	1
Seasonal Volunteer	8	0	8
TOTAL SEASONAL/VIP	**32** (9.3 FTE)	**11** (3.3 FTE)	**42** (12.6 FTE)
TOTAL	**42** (19.3 FTE)	**17** (9.3 FTE)	**58** (28.6 FTE)

Disabilities Act of 1990 establish standards for physical access. Any new or re-designed facilities constructed, as a matter of course, will be designed for accessibility for physically disabled visitors and employees.

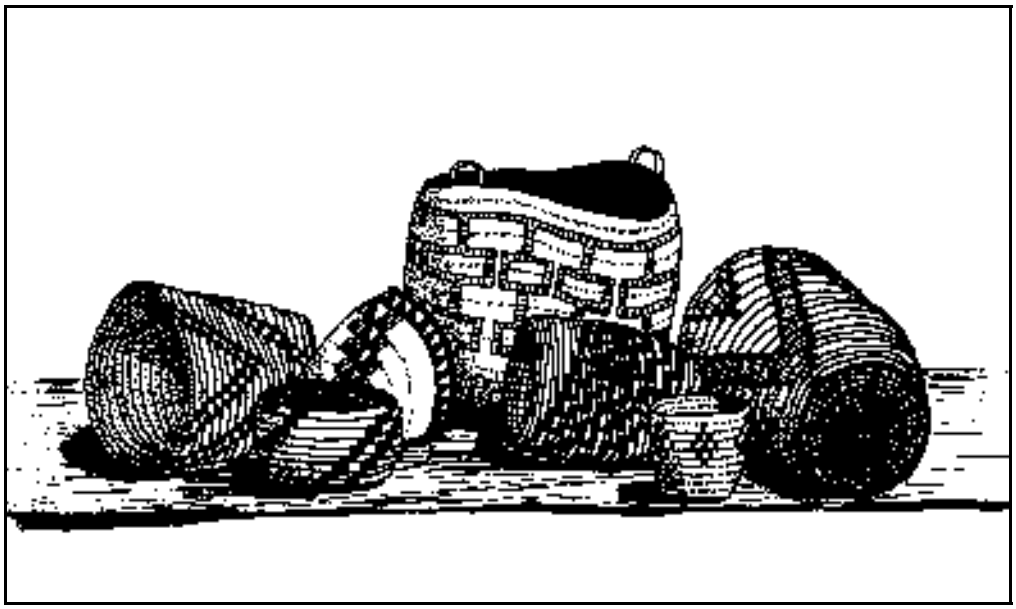
Other regulations, laws, and standards include Section 504 of the Rehabilitation Act of 1973, Director's Orders No. 42, and Accessibility for Visitors with Disabilities in National Park Service Programs, Facilities, and Services.

All new interpretive media also will conform to National Park Service, June 1999 Programmatic Accessibility Guidelines for Interpretive Media (see Appendix A).

The following table summarizes existing staff levels and additional staffing requirements needed to fully implement the recommendations of this long-range interpretive plan.

The following goals and objectives describe the Division of Interpretation's commitment to employee training:

- Offer training to all park staff in critical resource issues and effective informal interpretation and communication skills, recognizing that all park employees, including concessionaires and Incidental Business Permit hold-



ers, have a role in providing effective visitor services and achieving the NPS mission.

- Offer developmental opportunities for park staff to broaden their awareness of park issues. Provide opportunities for park employees to learn about and/or improve their ability to articulate the relationships between their work, park goals, and the NPS mission.
- Offer a minimum of two weeks of interpretive training to seasonal interpreters, which includes interpretive philosophy, interpretive skills, subject matter knowledge, operations procedures, and an overview of NPS programs, policies, and initiatives.
- Fully implement the Interpretive Development Program curriculum and encourage participation in the interpretive competencies certification program. Evaluate programs against national standards.
- Encourage individual participation in professional development opportunities. Assess employee development needs and provide training opportunities. Maintain a learner-driven and outcome based atmosphere.

In addition to ongoing training in interpretive skills and knowledge of the resources, park interpreters and others who deal with the visiting public need to keep abreast of current research, technologies, programs, and activities, not only as they relate to park resources, but also regarding visitor studies, interpretive media, education, etc. By working across operational division lines, effective and efficient ways to alert and/or involve staff in new or ongoing projects and innovations will be explored.

The park also will expand opportunities to offer interpretive skills and resource training to non-NPS folks who engage in interpretive, education, and information/orientation activities. Training could be offered through scheduled courses, workshops, etc. Potential trainees could include area educators, volunteers, interagency staff, retired interpreters in the region, tribal members, and others in the region and local communities who offer interpretive and informational services.

Products

The following is a summary list of new interpretive media, programs, and/or facilities that will contain such media at the various units of Mount Rainier National Park. While the list does identify new, redesigned, or restored structures, the focus is primarily on interpretive media. The list does not include things such as mechanical systems, security systems, restrooms, offices, storage areas, workrooms, parking lots, and road/trail development. These items, plus all new/restored structures and furnishings (e.g., seating, information desks, and sales displays) should be included in Denver Service Center,

Regional Office, cooperating association, or contractor planning, design, and construction specifications.

The following products are organized by site or major program area:

[Also consult the Staffing section for personnel needs.]

Parkwide or Multi-Site

Wayside Exhibit Proposal and Plan

Update official park folder (ongoing)

Upgrade park web site (ongoing)

Upgrade park newspaper (ongoing)

MORA official handbook

New topographic relief maps/models for visitor centers (3-4)

Portable (theme-based) exhibits for external visitor centers and offsite use

New site bulletins on geology, research, old growth forests, geo-hazards, flora and fauna, etc.

Interpretive text/graphic panels for historic wilderness cabins

Site bulletin display cases for all visitor contact centers

Special geo-hazard publications and signs

Evaluate directional sign system for reaching the park (external)

Evaluate directional sign system inside the park

Re-initiate oral history program

CD-ROM's on wilderness use, historic photos, etc.

Establish partnerships with educators, American Indian tribes, former NPS employees, colleges and universities, and others who will help implement elements of this long-range interpretive plan

Re-establish the MORA Institute

Conduct parkwide publications review/evaluation

Develop parkwide and site-specific publication priorities and implementation programs

Carbon River Road and Mowich Lake

Self-guiding rainforest loop trail (with booklet and/or wayside exhibits)

Silver Creek Information Center

Traveler's Information Station (TIS) to broadcast year-round information

Longmire

New exhibits for museum (some possibly utilizing historic audiovisual ele-

ments)

Historic furnishing study options for gas station

Historic furnishing study options for period ranger cabin

New exhibits (possibly including new topographic relief map) for the WIC

Interior re-design of the WIC for winter use

Design living history/costumed interpretation programs & acquire additional period clothing and props

Education Center

Exhibits (some with AV components) and furnishings for education center

Cougar Rock Amphitheater

Enlarge amphitheater and upgrade sound system

Paradise (Existing Visitor Center)

New temporary exhibits (all levels)

New audiovisual program (overall park introduction)

Paradise Old Ranger Station

New information/orientation exhibits

Sunrise

New information/orientation and theme-based exhibits (some with audiovisual and/or interactive components)

New cooperating association sales area

Self-guiding trail (with booklet and/or wayside exhibits)

Explore potential for American Indian interpretive activities and demonstrations

Mt. Fremont Fire Lookout

New exhibits and/or historic furnishings

White River Ranger Station

New information/orientation exhibits

White River Patrol Cabin

New exhibits and/or historic furnishings

White River Amphitheater

Upgrade amphitheater (not to include electrical or sound system)

Ohanapecosh

New information/orientation and theme-based exhibits (some with audiovisu-

al and/or interactive components)

TIS to broadcast year-round information

New cooperating association sales area

Self-guiding trail (with booklet and/or wayside exhibits)

Explore potential for American Indian interpretive activities and demonstrations

Upgrade amphitheater and sound system

Initial Priorities

Implementing some of the items from the extensive products and staffing recommendations lists will require independent planning efforts and other actions over the next 5-10 years. Other action items can be implemented immediately, within existing funds and staffing levels. In future years, the priority setting process will be reflected in the Annual Implementation Plan component of the

park's Comprehensive Interpretive Plan.

The following is a prioritization of the initial actions (divided into larger and smaller cost categories) for which funds are on-hand or obtainable within the

PLANNING TEAM & CONSULTANTS

next 1-2 years:

Larger Cost Priorities

1. Re-design the main exhibit room at the JVC with new and/or revised interim exhibits
2. Produce new park film
3. Produce a parkwide wayside exhibit proposal and plan
4. Develop new exhibits for the Sunrise Visitor Center
5. Develop new exhibits for Ohanapecosh Visitor Center

Smaller Cost Priorities

1. Hire term interpretive specialist to manage fee demonstration projects
2. Upgrade ecology exhibit room at JVC with new interim displays
3. Replace/remove old aluminum wayside exhibits at Mowich Lake
4. Upgrade Cougar Rock and White River amphitheaters
5. New wayside exhibits for Box Canyon
6. Interim improvements to JVC lobby/information desk and observation deck exhibits
7. Replace poor photos on current Ohanapecosh and Sunrise Visitor Center exhibits
8. Support high-priority, theme-related projects that support natural and cultural resource initiatives (e.g., oral history interviews)

Mount Rainier National Park

Jon Jarvis, Superintendent

Dave Uberuaga, Deputy Superintendent

Maria Gillett, Chief of Interpretation and Education

Sheri Forbes, Assistant Chief of Interpretation and Education

Chris Maun, Nisqually River Education Project

Anne Delph, Destination Packwood Association

Tanna Osterhaus, Ashford Community and Ashford Valley Business Association

Dale Thompson, Wildlife Artist and former MORA Chief of Interpretation (retired)

Ronald Warfield, former MORA Assistant Chief of Interpretation (retired)

Loren Lane, former MORA Interpretive and Education Specialist (retired)

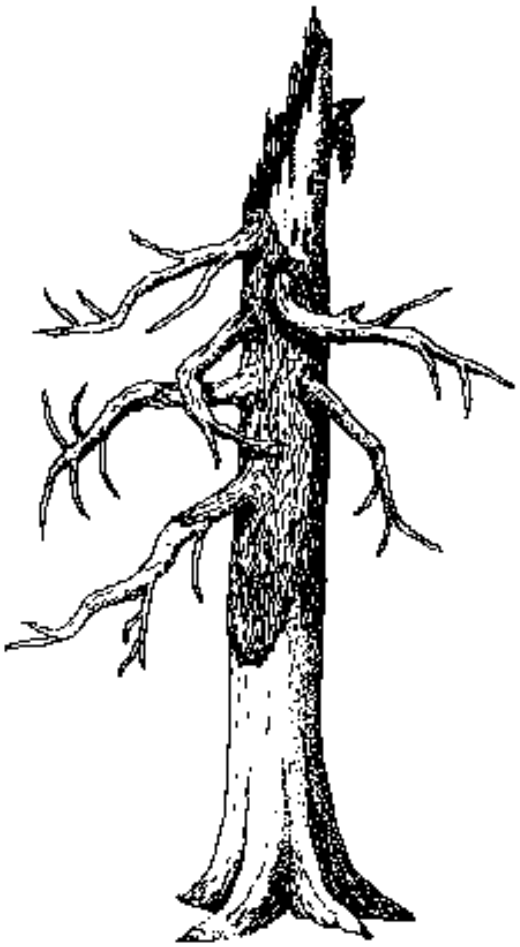
Larry Beal, Project Manager, Denver Service Center

Harpers Ferry Center

Anne Tubiolo, Audiovisual Producer/Director

David McLean, Senior Exhibit Designer

Paul Lee, Interpretive Planner



APPENDIX A

Carol Sperling, Paradise Interpreter

Ted Stout, Eastside Area Interpreter

Lisa Okazaki, Longmire/Carbon River Area Interpreter

Alisa Lynch, Interpretive Specialist

Anne Doherty, Education Specialist

Kale Bowling, Centennial Assistant, Interpretation

Craig Strong, Cultural Resources Specialist

Victoria Jacobson, Historical Architect

Deborah Osterberg, Museum Curator

Barbara Samora, Biologist

Ralph Bell, Sign Maker

Debbie Brenchley, Park Ranger, Protection

Cindy Mish, Nisqually Entrance Station Fee Collector

Pacific West Regional Office

Deanne Adams, Team Leader, Visitor Services and Interpretation

Consultants/Partners

Diane Converse, Administrative Director, Northwest Interpretive Association

Sarah Mettler, MORA Branch Manager, Northwest Interpretive Association

Rusty Sproatt, Managing Director, Mount Rainier Guest Services

Pam Newlein, Mount Rainier Guest Services

Jen Benn, Executive Director, Washington's National Park Fund

Karina Jensen, Office Manager, Rainier Mountaineering, Inc.

Thelma Gilmur, Tahoma Audubon and Tacoma Mountaineers

Carolyn Driedger, Hydrologist, U.S. Geological Survey, Cascade Volcanoes Observatory

Bonnie Lippitt, Mount St. Helens NVM

Special Populations: Programmatic Accessibility Guidelines for Interpretive Media

National Park Service
Harpers Ferry Center

June 1999

Prepared by
Harpers Ferry Center
Accessibility Task Force

Contents

STATEMENT OF PURPOSE

This document is a guide for promoting full access to interpretive media to ensure that people with physical and mental disabilities have access to the same information necessary for safe and meaningful visits to National Parks. Just as the needs and abilities of individuals cannot be reduced to simple statements, it is impossible to construct guidelines for interpretive media that can apply to every situation in the National Park System.

These guidelines define a high level of programmatic access which can be met

in most situations. They articulate key areas of concern and note generally accepted solutions. Due to the diversity of park resources and the variety of interpretive situations, flexibility and versatility are important.

Each interpretive medium contributes to the total park program. All media have inherent strengths and weaknesses, and it is our intent to capitalize on their strengths and provide alternatives where they are deficient. It should also be understood that any interpretive medium is just one component of the overall park experience. In some instances, especially with regard to learning disabilities, personal services, that is one-on-one interaction, may be the most appropriate and versatile interpretive approach.

In the final analysis, interpretive design is subjective, and dependent on aesthetic considerations as well as the particular characteristics and resources available for a specific program. Success or failure should be evaluated by examining all interpretive offerings of a park. Due to the unique characteristics of each situation, parks should be evaluated on a case by case basis. Nonetheless, the goal is to fully comply with NPS policy:

"...To provide the highest level of accessibility possible and feasible for persons with visual, hearing, mobility, and mental impairments, consistent with the obligation to conserve park resources and preserve the quality of the park experience for everyone."

NPS Special Directive 83-3, Accessibility for Disabled Persons

Audiovisual Programs

Audiovisual programs include video programs, and audio and interactive programs. As a matter of policy, all audiovisual programs produced by the Harpers Ferry Center will include some method of captioning. The Approach used will vary according to the conditions of the installation area and the media format used, and will be selected in consultation with the parks and regions.

The captioning method will be identified as early as possible in the planning process and will be presented in an integrated setting where possible. To the

extent possible, visitors will be offered a choice in viewing captioned or uncaptioned versions, but in situations where a choice is not possible or feasible, a captioned version of all programs will be made available. Park management will decide on the most appropriate operational approach for the particular site.

Guidelines Affecting Visitors with Mobility Impairments

1. The theater, auditorium, or viewing area should be accessible and free of architectural barriers, or alternative accommodations will be provided. UFAS 4.1.
2. Wheelchair locations will be provided according to ratios outlined in UFAS 4.1.2(18a).
3. Viewing heights and angles will be favorable for those in designated wheelchair locations.
4. In designing video or interactive components, control mechanisms will be placed in accessible location, usually between 9" and 48" from the ground and no more than 24" deep.

Guidelines Affecting Visitors with Visual Impairments

Simultaneous audio description will be considered for installations where the equipment can be properly installed and maintained.

Guidelines Affecting Visitors with Hearing Impairments

1. All audiovisual programs will be produced with appropriate captions.
2. Copies of scripts will be provided to the parks as a standard procedure.
3. Audio amplification and listening systems will be provided in accordance with UFAS 4.1.2(18b).

Guidelines Affecting Visitors with Learning Impairments

1. Unnecessarily complex and confusing concepts will be avoided.
2. Graphic elements will be chosen to communicate without reliance on the verbal component.
3. Narration will be concise and free of unnecessary jargon and technical information.

Exhibits

Numerous factors affect the design of exhibits, reflecting the unique circumstances of the specific space and the nature of the materials to be interpreted. It is clear that thoughtful, sensitive design can go a long way in producing exhibits that can be enjoyed by a broad range of people. Yet, due to the diversity of situations encountered, it is impossible to articulate guidelines that can be applied universally.

In some situations, the exhibit designer has little or no control over the space.

Often exhibits are placed in areas ill suited for that purpose, they may incorporate large or unyielding specimens, may incorporate sensitive artifacts which require special environmental controls, and room decor or architectural features may dictate certain solutions. All in all, exhibit design is an art which defies simple description. However, one central concern is to communicate the message to the largest audience possible. Every reasonable effort will be made to eliminate any factors limiting communication through physical modification or by providing an alternate means of communication.

Guidelines Affecting Visitors with Mobility Impairments

Note: The **Americans with Disabilities Act Accessibility Guidelines (ADAAG)** is the standard followed by the National Park Service and is therefore the basis for the accessibility standards for exhibits, where applicable.

1. Height/position of labels: Body copy on vertical exhibit walls should be placed at between **36"** and **60"** from the floor.
2. Artifact Cases:

   a. Maximum height of floor of artifact case display area shall be no higher than **30"** from the floor of the room. This includes vitrines that are recessed into an exhibit wall.

   b. Artifact labels should be placed so as to be visible to a person within a **43"** to **51"** eye level. This includes mounting labels within the case at an angle to maximize its visibility to all viewers.
3. Touchable Exhibits: Touchable exhibits positioned horizontally should be placed no higher than **30"** from the floor. Also, if the exhibit is approachable only on one side, it should be no deeper than **31"**.
4. Railings/barriers: Railings around any horizontal model or exhibit element shall have a maximum height of **36"** from the floor.
5. Information desks: Information desks and sales counters shall include a section made to accommodate both a visitor in a wheelchair and an employee in a wheelchair working on the other side. A section of the desk/counter shall have the following dimensions:

   a. Height from the floor to the top: **28** to **34** inches. (ADAAG 4.32.4)

   b. Minimum knee clearance space: **27" high, 30" wide** and **19" deep** of clearance underneath the desk is the minimum space required under ADAAG 4.32.3, but a space **30" high, 36" wide** and **24" deep** is recommended.

   c. Width of top surface of section: at least **36 inches**. Additional space must be provided for any equipment such as a cash register.

   d. Area underneath desk: Since both sides of the desk may have to accommodate a wheelchair, this area should be open all the way through to the other side. In addition, there should be no sharp or abrasive surfaces under-

neath the desk. The floor space behind the counter shall be free of obstructions.

6. Circulation Space:

   a. Passageways through exhibits shall be at least **36" wide**.

   b. If an exhibit passageway reaches a dead-end, an area **60" by 78"** should be provided at the end for turning around.

   c. Objects projecting from walls with their leading edges between **27"** and **80"** above the floor shall protrude no more than **4"** in passageways or aisles. Objects projecting from walls with their leading edges at or below **27"** above the floor can protrude any amount.

   d. Freestanding objects mounted on posts or pylons may overhang a maximum of **12"** from **27"** to **80"** above the floor. (ADAAG 4.4.1)

   e. Protruding objects shall not reduce the clear width of an accessible route to less than the minimum required amount. (ADAAG 4.4.1)

   f. Passageways or other circulation spaces shall have a minimum clear head room of **80"**. For example, signage hanging from the ceiling must have at least **80"** from the floor to the bottom edge of the sign. (ADAAG 4.4.2)

7. Floors:

   a. Floors and ramps shall be stable, level, firm and slip-resistant.

   b. Changes in level between **1/4"** and **1/2"** shall be beveled with a slope no greater than **1:2.** Changes in level greater than **1/2"** shall be accomplished by means of a ramp that complies with ADAAG 4.7 or 4.8. (ADAAG 4.5.2)

   c. Carpet in exhibit areas shall comply with ADAAG 4.5.3 for pile height, texture, pad thickness, and trim.

8. Seating - Interactive Stations/Work Areas: The minimum knee space underneath a work desk is **27" high, 30" wide** and **19" deep**, with a clear floor space of at least **30" by 30"** in front. The top of the desk or work surface shall be between **28"** and **34"** from the floor. (ADAAG 4.32, Fig.45)

Guidelines Affecting Visitors with Visual Impairments

1. Tactile models and other touchable exhibit items should be used whenever possible. Examples of touchable exhibit elements include relief maps, scale models, raised images of simple graphics, reproduction objects, and replaceable objects (such as natural history or geological specimens, cultural history items, etc.).

2. Typography - Readability of exhibit labels by visitors with various degrees of visual impairment shall be maximized by using the following guidelines:

a. Type size - **No** type in the exhibit shall be smaller than **24 point.**

b. Typeface - The most readable typefaces should be used whenever possible, particularly for body copy. They are: Times Roman, Palatino, Century, Helvetica and Universe.

c. Styles, Spacing - Text set in both caps and lower case is easier to read than all caps. Choose letter spacing and word spacing for maximum readability. Avoid too much italic type.

d. Line Length - Limit the line length for body copy to no more than **45 to 50 characters per line.**

e. Amount of Text - Each unit of body copy should have a maximum of **45-60 words.**

f. Margins - Flush left, ragged right margins are easiest to read.

3. Color:

   a. Type/Background Contrast - Percentage of contrast between the type and the background should be a **minimum of 70%** .

   b. Red/Green - Do not use red on green or green on red as the type/background color combination.

   c. Do not place body copy on top of graphic images that impair readability.

4. Samples: During the design process, it is recommended that samples be made for review of all size, typeface and color combinations for labels in that exhibit.

5. Exhibit Lighting:

   a. All labels shall receive sufficient, even light for good readability. Exhibit text in areas where light levels have been reduced for conservation purposes should have a minimum of 10 footcandles of illumination.

   b. Harsh reflections and glare should be avoided.

   c. The lighting system shall be flexible enough to allow adjustments on-site.

   d. Transitions between the floor and walls, columns or other structures should be made clearly visible. Finishes for vertical surfaces should contrast clearly with the floor finish. Floor circulation routes should have a minimum of 10 footcandles of illumination.

6. Signage: When permanent building signage is required as a part of an exhibit project, the ADAAG guidelines shall be consulted. Signs, which designate permanent rooms and spaces, shall comply with ADAAG 4.30.1, 4.30.4, 4.30.5, and 4.30.6. Other signs, which provide direction to or information about functional spaces of the building, shall comply with ADAAG 4.30.1, 4.30.2, 4.30.3, and 4.30.5. Note: When the International Symbol of

Accessibility (wheelchair symbol) is used, **the word "Handicapped" shall not be used** beneath the symbol. Instead, use the word "Accessible".

Guidelines Affecting Visitors with Hearing Impairments

1. Information presented via audio formats will be duplicated in a visual medium, such as in the exhibit label copy or by captioning. All video programs incorporated into the exhibit, which contain audio, shall be open captioned.
2. Amplification systems and volume controls should be incorporated with audio equipment used individually by the visitor, such as audio handsets.
3. Information desks shall allow for Telecommunication Devices for the Deaf (TDD) equipment.

Guidelines Affecting Visitors with Learning Impairments

1. The exhibits will present the main interpretive themes on a variety of levels of complexity, so people with varying abilities and interests can understand them.
2. The exhibits should avoid unnecessarily complex and confusing topics, technical terms, and unfamiliar expressions. Pronunciation aids should be provided where appropriate.
3. Graphic elements shall be used to communicate non-verbally.
4. The exhibits shall be a multi-sensory experience. Techniques to maximize the number of senses used in the exhibits should be encouraged.
5. Exhibit design shall use color and other creative approaches to facilitate comprehension of maps by visitors with directional impairments.

Historic Furnishings

Historically refurnished rooms offer the public a unique interpretive experience by placing visitors within historic spaces. Surrounded by historic artifacts visitors can feel the spaces "come alive" and relate more directly to the historic events or personalities commemorated by the park.

Accessibility is problematical in many NPS furnished sites because of the very nature of historic architecture. Buildings were erected with a functional point of view that is many times at odds with our modern views of accessibility.

The approach used to convey the experience of historically furnished spaces will vary from site to site. The goals, however, will remain the same, to give the public as rich an interpretive experience as possible given the nature of the structure.

Guidelines Affecting Visitors with Mobility Impairments

1. The exhibit space should be free of architectural barriers or a method of alternate accommodation should be provided, such as slide programs, videotaped tours, visual aids, dioramas, etc.
2. All pathways, aisles, and clearances shall (when possible) meet standards

set forth in UFAS 4.3 to provide adequate clearance for wheelchair routes.

3. Ramps shall be as gradual as possible and not exceed a 1" rise in 12" run, and conform to UFAS 4.8.
4. Railings and room barriers will be constructed in such a way as to provide unobstructed viewing by persons in wheelchairs.
5. In the planning and design process, furnishing inaccessible areas, such as upper floors of historic buildings, will be discouraged unless essential for interpretation.
6. Lighting will be designed to reduce glare or reflections when viewed from a wheelchair.
7. Alternative methods of interpretation, such as audiovisual programs, audio description, photo albums, and personal services will be used in areas which present difficulty for visitors with physical impairments.

Guidelines Affecting Visitors with Visual Impairments

1. Exhibit typefaces will be selected for readability and legibility, and conform to good industry practice.
2. Audio description will be used to describe furnished rooms, where appropriate.
3. Windows will be treated with film to provide balanced light levels and minimize glare.
4. Where appropriate, visitor-controlled rheostat-type lighting will be provided to augment general room lighting.
5. Where appropriate and when proper clearance has been approved, surplus artifacts or reproductions will be utilized as "hands-on" tactile interpretive devices.

Guidelines Affecting Visitors with Hearing Impairments

1. Information about room interiors will be presented in a visual medium such as exhibit copy, text, pamphlets, etc.
2. Captions will be provided for all AV programs relating to historic furnishings.

Guidelines Affecting the Visitors with Learning Impairments

1. Where appropriate, hands-on participatory elements geared to the level of visitor capabilities will be used.
2. Living history activities and demonstrations, which utilize the physical space as a method of providing multi-sensory experiences, will be encouraged.

Publications

A variety of publications are offered to visitors, ranging from park folders,

which provide an overview and orientation to a park, to more comprehensive handbooks. Each park folder should give a brief description of services available to visitors with disabilities, list significant barriers, and note the existence of TDD phone numbers, if available.

In addition, informal site bulletins are often produced to provide more specialized information about a specific site or topic. It is recommended that each park produce an easily updatable "Accessibility Site Bulletin" which could include detailed information about the specific programs, services, and opportunities available for visitors with disabilities and to describe barriers which are present in the park. A template for this site bulletin will be on the Division of Publications website for parks to create with ease, a consistent look throughout the park service. These bulletins should be in large type, 16 points minimum and follow the large-print criteria below.

Guidelines Affecting Visitors with Mobility Impairments

1. Park folders, site bulletins, and sales literature will be distributed from accessible locations and heights.
2. Park folders and Accessibility Site Bulletins should endeavor to carry information on the accessibility of buildings, trails, and programs by visitors with disabilities.

Guidelines Affecting Visitors with Visual Impairments

1. Publications for the general public:
   a. Text
      (1) Size: the largest type size appropriate for the format.
      (preferred main body of text should be 10pt)
      (2) Leading should be at least 20% greater than the font size used.
      (3) Proportional letterspacing
      (4) Main body of text set in caps and lower case.
      (5) Margins are flush left and ragged right
      (6) Little or no hyphenation is used at ends of lines.
      (7) Ink coverage is dense
      (8) Underlining does not connect with the letters being underlined.
      (9) Contrast of typeface and illustrations to background is high (70% contrast is recommended)
      (10) Photographs have a wide range of gray scale variation.
      (11) Line drawings or floor plans are clear and bold, with limited detail and minimum 8 pt type.
      (12) No extreme extended or compressed typefaces are used for main

text.

(13) Reversal type should be minimum of 11 point medium or bold sans-serif type.

b. The paper:

(1) Surface preferred is a matte finish. Dull-coated stock is acceptable.

(2) Has sufficient weight to avoid "show-through" on pages printed on both sides.

2. Large-print version publications:

a. Text

(1) Size: minimum16 point type.

(2) Leading is 16 on 20pt.

(3) Proportional letterspacing

(4) Main body of text set in caps and lower case.

(5) Margins are flush left and ragged right.

(6) Little or no hyphenation is used at ends of lines.

(7) Ink coverage is dense.

(8) Underlining does not connect with the letters being underlined.

(9) Contrast of typeface and illustrations to background is high (70% contrast is recommended)

(10) Photographs have a wide range of gray scale variation.

(11) Line drawings or floor plans are clear and bold, with limited detail and minimum14 pt type.

(12) No extreme extended or compressed typefaces are used for main text.

(13) Sans-serif or simple-serif typeface

(14) No oblique or italic typefaces

(15) Maximum of 50 characters (average) per line.

(16) No type is printed over other designs.

(17) Document has a flexible binding, preferably one that allows the publication to lie flat.

(18) Gutter margins are a minimum of 22mm; outside margin smaller but not less than 13mm.

b. Paper:

(1) Surface is off-white or natural with matte finish.

(2) Has sufficient weight to avoid "show-through" on pages printed on both sides.

3. Maps:

   a. The less clutter the map, the more visitors that can use it.

   b. The ultimate is one map that is large-print and tactile.

   c. Raised line/tactile maps are something that could be developed in future, using our present digital files and a thermaform machine. Lines are distinguished by lineweight, color and height. Areas are distinguished by color, height, and texture.

   d. The digital maps are on an accessible web site.

   e. Same paper guides as above.

   f. Contrast of typeface background is high. (70% contrast is recommended)

   g. Proportional letterspacing

   h. Labels set in caps and lower case

   i. Map notes are flush left and ragged right.

   j. Little or no hyphenation is used as ends of lines.

   k. No extreme extended or compressed typefaces are used for main text.

   l. Sans-serif or simple-serif typeface.

4. The text contained in the park folder should also be available on audiocassette, CD and accessible web site. Handbooks, accessibility guides, and other publications should be similarly recorded where possible.

5. The official park publication is available in a word processing format. This could be translated into Braille as needed.

Guidelines Affecting Visitors with Hearing Impairments

Park site bulletins will note the availability of such special services as sign language interpretation and captioned programs.

Guidelines Affecting Visitors with Learning Impairments

1. The park site bulletin should list any special services available to these visitors.

2. Publications:

   a. Use language that appropriately describes persons with disabilities.

   b. Topics will be specific and of general interest. Unnecessary complexity will be avoided.

   c. Whenever possible, easy to understand graphics will be used to convey ideas, rather than text alone.

d. Unfamiliar expressions, technical terms, and jargon will be avoided. Pronunciation aids and definitions will be provided where needed.

e. Text will be concise and free of long paragraphs and wordy language.

Wayside Exhibits

Wayside exhibits, which include outdoor interpretive exhibits and signs, orientation shelter exhibits, trailhead exhibits, and bulletin boards, offer special advantages to visitors with disabilities. The liberal use of photographs, artwork, diagrams, and maps, combined with highly readable type, make wayside exhibits an excellent medium for visitors with hearing and learning impairments. For visitors with sight impairments, waysides offer large type and high legibility.

Although a limited number of NPS wayside exhibits will always be inaccessible to visitors with mobility impairments, the great majority are placed at accessible pullouts, viewpoints, parking areas, and trailheads.

The NPS accessibility guidelines for wayside exhibits help insure a standard of quality that will be appreciated by all visitors. Nearly everyone benefits from high quality graphics, readable type, comfortable base designs, accessible locations, hard-surfaced exhibit pads, and well-landscaped exhibit sites.

While waysides are valuable on-site "interpreters," it should be remembered that the park resources themselves are the primary things visitors come to experience. Good waysides focus attention on the features they interpret, and not on themselves. A wayside exhibit is only one of the many interpretive tools which visitors can use to enhance their appreciation of a park.

Guidelines Affecting Visitors with Mobility Impairments

1. Wayside exhibits will be installed at accessible locations whenever possible.
2. Wayside exhibits will be installed at heights and angles favorable for viewing by most visitors including those in wheelchairs. For standard NPS low-profile units the recommended height is 30 inches from the bottom edge of the exhibit panel to the finished grade; for vertical exhibits the height of 6-28 inches.
3. Trailhead exhibits will include information on trail conditions which affect accessibility.
4. Wayside exhibit sites will have level, hard surfaced exhibit pads.
5. Exhibit sites will offer clear, unrestricted views of park features described in exhibits.

Guidelines Affecting Visitors with Visual Impairments

1. Exhibit type will be as legible and readable as possible.
2. Panel colors will be selected to reduce eyestrain and glare, and to provide

excellent readability under field conditions. White should not be used as a background color.

3. Selected wayside exhibits may incorporate audio stations or tactile elements such as models, texture blocks, and relief maps.
4. For all major features interpreted by wayside exhibits, the park should offer non-visual interpretation covering the same subject matter. Examples include cassette tape tours, radio messages, and ranger talks.
5. Appropriate tactile cues should be provided to help visually impaired visitors locate exhibits.

Guidelines Affecting Visitors with Hearing Impairments

1. Wayside exhibits will communicate visually, and will rely heavily on graphics to interpret park resources.
2. Essential information included in audio station messages will be duplicated in written form, either as part of the exhibit text or with printed material.

Guidelines Affecting Visitors with Learning Impairments

1. Topics for wayside exhibits will be specific and of general interest. Unnecessary complexity will be avoided.
2. Whenever possible, easy to understand graphics will be used to convey ideas, rather than text alone.
3. Unfamiliar expressions, technical terms, and jargon will be avoided. Pronunciation aids and definitions will be provided where needed.
4. Text will be concise and free of long paragraphs and wordy language.

Summary of Social Survey Information at MORA

[The following document was written by Mark E. Vande Kamp and Darryll R. Johnson: Field Station for Protected Areas Research, College of Forest Resources, University of Washington. Although written with regard to the MORA-GMP, the results of these studies will have many implications for the interpretive program.]

From the early stages in the process of formulating the Mount Rainier National Park General Management Plan (MORA GMP) it has been emphasized that social survey data are relevant to many aspects of NPS planning. One way to think of the contributions made by social survey data is to review the questions that such data can address. Seven general questions that were initially identified as important to the MORA GMP were:

- Where are visitors concentrated in Mount Rainier?
- What types of visitors are found at specific sites in the park?
- How are visitors using sites in the park?
- How tightly are visitors tied to their plans to visit specific sites in the park?
- How do visitors perceive existing park conditions?
- What are some of the important factors in determining the quality of visitor's experiences in the park?
- How do visitors react to various conditions that might be present in the park?

The Visitor Experience and Resource Protection (VERP) planning process was adopted as a framework for producing the MORA GMP. Like several other planning frameworks, VERP is focused on the selection of *indicators* and the definition of *standards*. Although all seven questions above are important in making sound management and planning decisions, not all of them bear directly on the selection of indicators and standards. The last three questions are most closely tied to the selection of indicators and standards. When visitors perceive conditions negatively, such conditions may have exceeded a social standard. Indicators will not be effective if they are not important factors in determining the quality of visitors' experiences. And visitors' reactions to hypothetical conditions that might be present can be pertinent to the process of defining social standards.

A variety of surveys were conducted at MORA as a means of addressing the seven questions listed above. The surveys are described below, with special attention focused on the questions addressed by each survey.

Visitor Distribution Survey (VDS)

The VDS survey took place over three four-day periods in 1995: July 8-11; August 12-15; and August 26-29. Observers at a wide variety of sites (includ-

ing trails, parking lots, and facilities) made counts of visitors or vehicles between 10:00 a.m. and 4:00 p.m. on each day. A total of 36 sites were observed in July, and 72 sites were observed in the August sessions.

The VDS was intended to address questions concerning *where visitors were concentrated in MORA,* and the more specific follow-up question of *how many visitors are present.* Analysis of the data has provided descriptions of the average weekday and weekend use that was observed at all sites for the 10:00 a.m. to 4:00 p.m. period. These descriptions provide information about the total numbers of visitors present, the time at which visitor density is highest, and the length of time that such peak use commonly persists.

In addition to a basic description of the observed use levels, the VDS data were also used to estimate a variety of information for the selected sites. This information included: total and peak use for sunny and cloudy weekdays; total and peak use for sunny and cloudy weekends; and use level of trails when parking lots were filled to their design capacity.

This last set of estimates concerning trail use and parking lots levels illustrates how descriptive data can inform management decisions. By comparing the full parking lot estimates to the sunny weekend peak estimates, the MORA planning team can assess the likely impact of limiting visitor parking to the designed capacity. The VDS data could also be used in many other informative ways throughout the GMP process and in the ongoing management of MORA. The data constitute a useful baseline measure, more extensive than that commonly available to park managers.

Visitor Experience Surveys

Five visitor surveys were conducted between July 5 and September 6, 1995 as a means of addressing the remaining five questions listed above. These surveys were designed to focus on management zones that had been proposed by the planning team. They describe characteristics, behavior, and opinions of visitors present during the peak visitation season. Such data are likely to be quite different during the winter or shoulder seasons.

Facility Surveys

As indicated by their name, these surveys focused on the developed facilities in MORA. Nine sites were selected and onsite surveys were conducted of visitors at those facilities. At Longmire, visitors were contacted at the gift shop, museum, and restaurant; at the Paradise Inn, visitors were contacted at the gift shop and snack bar; and at the Jackson Visitor Center, visitors were contacted at the bookstore, gift shop, restaurant, and in the lobby. Between 170 and 300 visitors were surveyed at each of the sites.

The Facilities Surveys were intended to assess three of the seven questions listed above:

- Demographic questions were asked to assess *what types of visitors are found at developed facilities.*
- Questions about the importance of waiting or being crowded at each facili-

ty assessed the *important factors in determining the quality of visitors' experiences in the park.*

- Questions describing a variety of waiting or visitor density conditions at developed visitor facilities assessed *how visitors react to various possible park conditions*.

Gate Survey

The Gate Survey focused on the proposed Motorized Sightseeing Zone. About 940 mail surveys were returned by visitors who were contacted at the Nisqually and Stevens Canyon entrances. The White River entrance was omitted for a number of reasons including: a) funding and staff considerations; b) because a survey had recently been conducted at that gate; and, c) because most MORA visitors (at least 65%) enter via the Nisqually or Stevens Canyon gates. The Carbon River entrance was also omitted, primarily because bridge construction had a large impact on visitation in that area during the survey period.

The Gate Survey of visitors to the Nisqually/Stevens Canyon corridor was intended to address the last six of the seven questions listed above:

- Demographic questions were asked to assess *what types of visitors are found at specific sites in the southern portion of the park.*
- Questions about visitors' activities at MORA assessed *how visitors are using selected sites in the Nisqually/Stevens Canyon corridor*.
- Questions about resource damage and crowding by other visitors assessed *how visitors perceive existing conditions in the Nisqually/Stevens Canyon corridor.*
- Questions about substitute destinations assessed *how tightly visitors are tied to their plans to visit specific park sites*, and assessed possible alternative destinations.
- Questions about the importance of 18 possible indicators of experience quality assessed *the important factors in determining the quality of visitors' experiences*.
- Questions describing a variety of traffic conditions and vehicular congestion at turnouts assessed how visitors react to various possible park conditions.

Sensitive Resource Survey

As indicated by the name, this survey focused on the proposed Sensitive Resource Zone. About 720 mail surveys were returned by visitors who were contacted at Nisqually Vista, Dead Horse Trail, Skyline Trail, Pebble Creek, and Burroughs Mt. Trail.

The Sensitive Resource Survey of hikers at five frontcountry trails was intended to address five of the seven questions listed above:

- Demographic questions were asked to assess *what types of visitors are found at these five trails*.
- Questions about visitors' hikes assessed how visitors are using these five trails.
- Questions about substitute destinations assessed *how tightly visitors are tied to their plans to visit these trails*, and assessed possible alternative destinations.
- Questions about the importance of factors that could influence experience quality assessed *the important factors in determining the quality of visitors' experiences*.
- Questions describing a variety of: a) visitor densities on trails; b) trail development; c) numbers of encounters with uniformed employees; d) text on regulatory signs; and, e) numbers of regulatory signs assessed *how visitors react to various possible park conditions*.

Wilderness Trail Survey

As indicated by the name, this survey focused on the proposed Wilderness Trail Zone. About 580 mail surveys were returned by visitors who were contacted at Comet Falls, Summerland, Mt. Fremont Lookout, and Glacier Basin.

The Wilderness Trail Survey of hikers at four wilderness trails was intended to address four of the seven questions listed above:

- Demographic questions were asked to assess *what types of visitors are found at these four wilderness trails.*
- Questions about visitors' trips and specific questions about their hikes assessed *how visitors are using these wilderness trails*.
- Questions about resource damage and crowding by other visitors assessed *how visitors perceive existing park conditions*.
- Questions about substitute destinations assessed *how tightly visitors are tied to their plans to visit these wilderness trails*, and assessed possible alternative destinations.

Wilderness Overnight Survey

This survey focused on all the proposed Wilderness Zones. About 290 mail surveys were returned by visitors who were contacted when requesting overnight backcountry permits at Longmire and Paradise.

The Wilderness Overnight Survey was intended to address four of the seven questions listed above for trail zones and off-trail areas in wilderness:

- Demographic questions were asked to assess *what types of visitors participate in overnight wilderness camping*.
- Questions about visitors' trips and specific questions about their hikes assessed *how visitors are using the park wilderness.*

- Questions about resource damage and crowding by other visitors while on the on-trail and off-trail assessed *how visitors perceive conditions in two proposed wilderness zones*.
- Questions about substitute destinations assessed *how tightly visitors are tied to their plans to visit wilderness areas*, and assessed possible alternate destinations.

Other Visitor Surveys Conducted To Collect Information Pertinent To The MORA GMP

In the summer of 1993, prior to the formation of the GMP planning team and the adoption of the VERP planning process, three visitor surveys were conducted to collect information pertinent to the MORA GMP. These surveys, like the VES surveys discussed above, can also be described in relation to the questions they address. They describe characteristics, behavior, and opinions of visitors present during the peak visitation season. Such data are likely to be quite different during the winter or shoulder seasons.

Spray Park Visitor Survey (SPVS). This survey focused on visitors to Spray Park, a popular wilderness day-hiking destination in the northwest corner of MORA. Visitors were contacted at the entrance to Spray Park (about three miles from the trailhead) and were asked to complete an onsite questionnaire. About 850 visitors completed the onsite questionnaire and about 580 mail questionnaires were returned.

The SPVS was intended to address four of the seven questions listed above:

- Demographic questions were asked to address *what types of visitors are found in Spray Park.*
- Questions about visitors' trips and specific questions about their hikes assessed *how visitors are using Spray Park and how visitors are concentrated in Spray Park.*
- Questions about resource damage and crowding by other visitors assessed *how visitors perceive existing Spray Park conditions.*
- Questions describing a variety of visitor densities in Spray Park assessed *how visitors react to various possible Spray Park conditions.*

Mowich Lake Visitor Survey (MLVS). This survey focused on visitors contacted at the Mowich Lake parking lot, a parking area in the northwest corner of MORA used by visitors to Mowich Lake, as well as those hiking to Spray Park, Ipsut Pass, Tolmie Peak, and a variety of other locations. About 400 mail surveys were returned.

The MLVS was intended to address four of the seven questions listed above:

- Demographic questions were asked to assess *what types of visitors use the Mowich Lake area*.
- Questions about visitors' trips and specific questions about their hikes assessed *how visitors are using the Mowich Lake area.*

- Questions about resource damage and crowding by other visitors assessed *how visitors perceive existing conditions in the Mowich Lake area*.
- Questions about possible management actions including: a) removal of fish from Mowich Lake; b) constructing a gate and charging a fee for entrance on the Mowich Lake road; and, c) closure of the last 300 yards of the Mowich Lake road assessed *how visitors react to various possible conditions in the Mowich Lake area*.

White River/Sunrise (WRS) Visitor Survey. This survey focused on visitors contacted at the White River entrance gate of MORA. Visitors were asked to identify the member of their party who was most responsible for planning their trip. That person was then asked to complete an onsite questionnaire, and to later complete a mail questionnaire. About 1,110 onsite questionnaires were completed and about 890 mail questionnaires were returned.

The WRS survey focused on visitors who were most responsible for planning their party's trip to MORA, because one of the primary purposes of the survey was to investigate the ways in which information might be used to alter visitor patterns. Thus the survey focused on the persons most responsible for making visitation decisions. The WRS survey was intended to address four of the seven questions listed above:

- Demographic questions were asked to assess *what types of visitors are responsible for planning trips to the WRS area*.
- Questions about visitors' trips and trip motivations assessed *how visitors are using the WRS area*.
- Questions about resource damage and crowding by other visitors assessed *how visitors perceive existing conditions in the WRS area*.
- Questions about possible ways of learning that the Sunrise parking lot is full including: a) notification by the gate attendant; and, b) notification by electronic signs along the highway assessed *how visitors react to possible parking congestion at the Sunrise parking lot*.

In addition to assessing these four questions, the WRS survey also asked questions concerning the types of information visitors used when planning their trip and the adequacy of that information. These questions assessed how information might be used to influence visitation patterns.

Other Visitor Surveys and Reports That Provide Information Pertinent to the MORA GMP

Several visitor surveys conducted prior to 1993 were not conducted as part of the MORA GMP, but nevertheless collected information pertinent to the planning process. These surveys can also be described in relation to the questions they address. In addition, one report based on survey data is also pertinent.

1990 Mount Rainier General Visitor Survey (1990 GVS). This survey contacted a sample representative of all MORA visitors across all seasons of the

year. About 1,580 mail surveys were returned by contacted visitors.

The 1990 GVS represents a baseline against which we can compare the results of the more recent MORA visitor surveys in order to assess changes in visitor characteristics and activities. It also represents the only survey data describing winter visitors to MORA. The 1990 GVS was intended to address four of the seven questions listed above:

- Demographic questions were asked to assess *what types of visitors are found at specific sites in the park*.
- Questions about visitors' activities in MORA and motivations for visiting assessed *how visitors are using selected areas in the park.*
- Questions about the importance of eight park attributes that might be emphasized in park planning assessed *the important factors in determining the quality of visitors' experiences*.
- Questions about possible ways that park managers might intervene in natural processes including: a) suppression of lightning-caused fires; and, b) using veterinary techniques to protect elk from a natural disease assessed *how visitors react to possible management decisions.*

In addition to addressing these four questions, the 1990 GVS included a market segmentation of park visitors that described four groups of visitors with distinct motivations for visiting.

Study Of Visitor Attitudes Toward Initiation of A Visitor Transportation System At Mount Rainier National Park. This survey contacted a sample of summer MORA visitors. About 988 mail surveys were returned by visitors contacted in the summers of 1988 and 1989.

The transportation survey was intended to ascertain the opinions of park visitors toward the establishment of various transportation system alternatives at MORA. Unlike the surveys discussed above, the transportation survey was focused on this specific issue and did not address the general questions concerning visitors to MORA. Still, the potential use of a transportation system and discussion of such use in the MORA GMP make the transportation survey a pertinent source of information.

Projected Consumption of Outdoor Recreation Activities within Mount Rainier National Park and Surrounding Region. This report projects future demand for recreation activities including developed area camping, primitive camping, sightseeing, picnicking, attending visitor centers and museums, wildlife observation, outdoor photography, day hiking, and bicycling at MORA. As with any projections, these are based on assumptions that may or may not prove to be correct. Nonetheless, judicious use of such projected demands for recreational activities can improve the likelihood that the plan-

ning process will produce a successful MORA GMP.

Exhibit/Wayside Concepts - Geology

The following are excerpts from Carolyn Driedger's report/comments subsequent to the LRIP workshop in February 1999. As with other media proposals in this document, the suggested means of presentation should not be regarded as firm recommendations. Similar proposals are needed for other primary park themes and topic areas.

Exhibits

Here are some specific geologic concepts that could be expanded upon for future exhibits at park visitor centers. (The list is not comprehensive.)

Mount Rainier is an ACTIVE volcano—Emphasize evidence for the visitor—active steam vents, seismicity, and recent eruptions.

Mount Rainier's continuing geologic story—how the same processes that built and shaped the mountain continue, and pose as hazards today. Perhaps a multimedia "assembling of the mountain" display is appropriate.

Mount Rainier is like a layer cake of lava flows and rock rubble—show examples for visitors to observe. To take this analogy further, Mount Rainier is like a partially eaten cake with subsequent cakes baked around it.

Mount Rainier geologic processes have been observed far back in human history—travel from past to future with use of native oral traditions, historical accounts, and prospects for the future.

Rock erupted during a single eruption can appear very different for some very understandable reasons. (Examples: rock columns, glass, crystals, "rust", and rocks that crack open like pages of an opened book.)

Many ash layers within the park originated on Mount Rainier's sister volcanoes. Visitors can gain an understanding of the frequency and recentness of volcanic activity by observing the ash layers in exhibits and on trails throughout the park.

Mount Rainier is a world-class example of a volcano that produces abundant landslides and lahars. Make some comparisons with other volcanoes in Cascades and elsewhere.

Focus on glacier behavior, dynamics, roles, and histories. Mount Rainier's glaciers are alive and well. Variation is to be expected. Glacial geology provides a record of environmental change. Glaciers are an integral part of the alpine ecosystem.

Fire and ice interactions:

- Mount Rainier generates its own weather, providing ample precipitation to sustain glaciers.
- Mount Rainier's extensive high altitude environment supports a large glacial system.

- Glacial ice establishes the course of lava flows and subsequently the location of ridges and valleys in the park.
- Snow and ice melt provides melt water necessary for hydrothermal alteration that in turn weakens rock within the mountain.
- Eruptions melt snow and ice causing lahars that erode the volcano and create hazards downstream.
- Glaciers sculpt the volcano.

Recent research at Mount Rainier has changed our former understandings. Some new results include:

- Eruptions that built Mount Rainier began more than 500,000 years ago, but much of the edifice we see today was formed by eruptions during the last 100,000 years.
- Mount Rainier erupted many times more than previously recognized.
- Eruptions at Mount Rainier have sometimes been more explosive than previously recognized.
- The mountain gained a high altitude early in its history.
- An east-west trending series of dikes through the mountain have weakened the rock chemically and made the rock more susceptible to collapse.
- At least seven lahars have reached the Puget Sound lowlands during the past 5,700 years.
- Glaciers determine the course of lava flows, and thus, the shape of the volcano.
- Mount Rainier will erupt again. Evidence is the relatively recent eruptions of the late-19th century, the presence of active geothermal vents; seismicity, and ongoing subduction of the ocean floor off the coast that fuels volcanic activity.

Some of the most commonly asked visitor questions regarding Mount Rainier's geologic resources include:

- When will Mount Rainier erupt?
- When was the last eruption?
- How will we know when Mount Rainier is becoming restless?
- How old is Mount Rainier?
- Is Mount St. Helens connected to Mount Rainier underground?
- Do earthquakes cause eruptions?
- Is lava hot enough to burn?
- How tall was Mount Rainier in previous times?

Wayside Exhibits

Sunrise

Opportunities for trail signs exist at Emmons Vista, throughout Yakima Park, Sunrise Point, and at turnouts along the road to Sunrise and at White River Campground.

Possible geologic stories include:

- Story of Burroughs Mountain lava flows (the oldest in the park, 500,000 years).
- How the beautiful "pudding rocks" of the Summerland are formed.
- The road from White River Campground takes you up the side of and along the top of a lava flow.
- Drive around the toe of a lava flow and see spectacular columnar jointing at the toe of the flow.
- Show how glaciers erode the lava flow and that the loose rocks they dumped are a road hazard.
- Rock glaciers and other alpine patterned ground visible from trails.
- Small glacial features in the backcountry northwest of Sunrise—some contain lakes.
- Tell the story of the Osceola Mudflow—refilling the crater and rebuilding the cone.
- Layer "C" tephra that blankets the ground at Sunrise and how it effects ecology. Numerous large ash layers visible in road cuts.
- Emmons Glacier and its geologic/hydrologic significance.
- How the valleys in the park were filled with ice many times; glacial "float" in road cuts.
- Explain rockfall from Little Tahoma and Russell Cliffs and why we need to be mindful of rockfall today.

Westside Road

- Glacial outbursts and resulting lahars have forced road closure during the past decade.
- Tahoma Creek has been the site of multiple lahars (large and small) throughout its history.
- Glacial outburst floods are ongoing phenomena sometimes witnessed by visitors.
- Glaciers traveled this valley, and beautifully preserved moraines are easy to spot near Wonderland Trail Bridge.
- This valley is "a work in progress". Streamflow, glaciers, and lahars continuously reshape it.
- Dead trees in the valley tell a story of flooding and terracing.

- Rockfall has been an important influence on the landscape. (Spectacular Mount Wow landslide looms over parking lot.)

Kautz Creek

- Story of the 1947 lahar
- How lahars are recycling the mountain
- Significance of the tree stumps and buried forests

(Also needs better signing to inform and direct visitors to the viewpoint across the road.)

Longmire

- Longmire mineral springs have a unique geologic origin.
- Gases rising in the springs originate in the magma body beneath the volcano.
- Sufficient amounts of carbon dioxide rises to suffocate birds who tarry here.
- Safety issues for humans near the springs
- Rampart Ridge (visibly prominent) is the side of a lava flow that was chilled by adjacent glacier ice.
- Explain spectacular columnar jointing visible here and around the park
- Flood hazards at Longmire and why use of facilities is being reduced.

Nisqually Glacier Bridge

- Historic personal accounts (letters, journals, photos, scientific findings) of glacier's recent activity. (Examples: A. Kautz mentions Nisqually Glacier's terminus position as he travels the glacier's surface toward the summit in the 1840's. J. Longmire resents glacier recession because of extra distance traveled from his lodge on ice-gathering trips.)
- Area visible down the valley from the bridge is furthest extent of glaciation since the Ice Ages.
- Previous bridges were destroyed by glacial outburst floods.
- River never covers the entire streambed. This is a braided stream that oscillates across the valley floor through time.
- Glacier history is determined through the use of tree ring and lichen dating, etc.
- Glaciers advance when flow rate exceeds melt rate, and recede when melt rate exceeds flow rate.
- Nisqually Glacier is one of the most studied glaciers in North America. Studies here have contributed to our understanding of how glaciers everywhere move and respond to changes in the environment.
- Nisqually Glacier is currently undergoing a major change in its behavior.

- The deglaciated valley is going through an ecological recovery process.

Ricksecker Point

(upgrade existing wayside exhibits)

- Ice Age glaciation filled the valleys surrounding Ricksecker Point.
- Glaciers diverted lava to low areas at their margins, forming multiple layers of lava flows.
- Ice recession left the lava flows stranded high and dry—and unsupported by ice.
- Ricksecker Point lies at the toe of the Paradise Ridge lava flow that pooled at the juncture of two large glaciers.
- The uppermost lava flow has a craggy, clinker-like top. Lava "squeeze-ups" are visible on the west side.
- About 5,700 years ago, the Osceola landslide and mudflow sent most rock to the north of the volcano, but some fell toward the south at the Paradise Lahar. The valley viewed from the parking lot was filled with rock debris, and continued its way down the Nisqually River valley. Loose rock visible on the surface is from the Paradise Lahar. On the east side exit from the parking lot, one can see tephra layers "O" from Mount Mazama and "W" from Mount St. Helens. The layers of known age have been useful in dating intervening layers.
- The Tatoosh Range, so prominent from this vantage point, is the same rock formation that exists beneath the foundation rock of Mount Rainier. The landscape of the Tatoosh Range is probably similar to that found beneath Mount Rainier.

Narada Falls

- This area is the margin of a lava flow and the reason why a waterfall formed here.

Panorama Point (Paradise Area)

- Hikers are standing on a lava flow.
- Upper lava flow has been glaciated repeatedly—most recently in the last ice age.
- About 5,700 years ago the area was blanketed with debris from the Paradise Lahar. Large rocks on the ground were deposited by that event, not by recent glaciers.
- The ground on Paradise Ridge is undulating—very characteristic of landslide terrain.

- Here is an opportunity to look at the inside of a volcano—a major dissec-

tion caused by glaciers.

- Opportunity here to view Mount Rainier in perspective with other volcanic features in the panorama.
- Vantage point allows visitors to see at least three large lava flows radiating from the volcano—each of different ages (Mazama, Paradise, and Rampart Ridges).

Glacier Vista (Paradise Area)

- The cliff to the west of the glacier is built of alternating and overlapping layers of lava flows and pyroclastic flow (pf) deposits. The lava forms solid layers; the pf's form loose unconsolidated layers that are the source of frequent rockfall.
- As the Nisqually Glacier undercuts the cliff, disintegration accelerates. Rockfall drops onto the glacier that insulates the glacier from the heat of the sun.
- A good place to discuss glacier surface altitude and waves of thickened ice moving down the valley.
- Large crevasses are visible here—some with 1980 ash from Mount St. Helens many meters down.

Nisqually Vista (Paradise Area)

- This is a good place to introduce Nisqually Glacier's history, behavior, dimensions, and the central role it has played in advancing our knowledge of glacier processes.
- Also a good place to explain the rocks that mask the glacier surface, and why rock exists in large volume on the lower elevations of glaciers.

Steven-Van Trump Memorial/Paradise Glacier

- Offers view of subglacial landscape that for centuries lay beneath ice.
- Area is a virtual display case of glacial features—moraines, polish, striations, chatter marks, and precipitates.
- A large cliff visible from here is the toe of a subglacial lava flow.

Trail Ascending Mazama Ridge (Paradise Area)

- Trail cuts in this area offer an excellent view of volcanic ash layers from Mount St. Helens, Mount Mazama (Crater Lake), and Mount Rainier. With practice, visitors can become familiar with some of the ash layers and trace them throughout their journeys in the park.
- Also a good place to interpret the relationship between the ash layers and local ecology.

Stevens Canyon Road

- This is a good place to interpret what happens when lava flows come into contact with ice. Visitors can see lava flows that were diverted to the south side of the Stevens Creek valley by the ancient Stevens Canyon Glacier. The chilled margins and toe of the main lava flow also can be seen.
- Stevens Ridge consists of volcanic rocks much older than Mount Rainier.
- Ancient (pre-Mount Rainier) pyroclastic flows left a formation of green-hued grains that were smashed and flattened by the weight of overlying pyroclastic flows. These smashed grains are easily seen in the rock wall adjacent to the tunnel.

Mowich Lake/Ipsut Creek Area

- Interpret the relatively young satellite cones (Echo and Observations Rocks) and the origins of Eunice and Mowich Lakes.
- Explain the demise of the Flett Glaciers of upper Spray Park.
- Interpret Carbon Glacier, the glacier with the lowest elevation in the contiguous U.S.—also glacial polish and striations at the terminus.
- Pre-Mount Rainier rock, same rock that forms the Tatoosh Range, found at the terminus of the Carbon Glacier.
- Well-defined moraines at Cataract Creek
- View of Wills Wall and its avalanches
- Interpret the Carbon River, a braided stream, and why its path oscillates and repeatedly washes out the road.

Interpretive Proposals Related to Draft General Management Plan

This current long-range interpretive planning effort has proceeded separately, but in tandem with a new park-wide General Management Plan (GMP). As the LRIP nears completion, the GMP has not been finalized; consequently, the following proposals are subject to any changes made during the remainder of the GMP process.

The draft GMP contains proposals to reduce visitor congestion in some areas of the park, redirect the interpretive focus of interpretive facilities inside the park, and create several external visitor facilities. The GMP also proposes the replacement of the Jackson Visitor Center (JVC) at Paradise and the establishment of a main park visitor center outside the Nisqually entrance to the park.

The following is an elaboration of these GMP draft proposals as they affect aspects of the interpretive program at Mount Rainier National Park. If these proposals eventually are adopted in the final GMP, this appendix may offer some general guidance for implementation. The organization of this section is similar to that found in the Implementation Strategies section of this LRIP.

On-Arrival

The draft GMP proposes staffed visitor contact facilities outside each of the main entrances to the park. Each would provide basic trip planning information and orientation as a primary function, and also would provide a basic introduction to park resources, themes, and programs, and advise visitors of any area closures. Visitors would be able to obtain wilderness, climbing, and campground permits, pay the entrance fee, and find information on where to hike or camp, what to see for various lengths of visits, where to park, etc. During peak visitation periods, these centers would serve a most important function of suggesting alternative activities and destinations when some park areas are full. Even at non-peak times, visitors would benefit from a better knowledge of area resources and attractions, especially those that reinforce park/regional themes and illustrate the linkages between the park and the surrounding region.

Safety information on geo-hazards, avalanche danger, visibility, weather conditions, essential equipment, pets, roadway precautions, climbing, etc., also would be available. Since some information is seasonal, displays could be designed to highlight the most prevalent topics. Media and messages designed to affect visitor actions should be based on the best and current research available regarding influencing human behavior. Media planners and designers also need to be aware of multicultural differences and attitudes toward resources. Informational wayside exhibits would be placed outside each facility to serve after-hours visitors as well as people who arrive when buildings are closed for the season.

While visitors cannot be required to stop at these facilities, they would be

strongly encouraged to do so. This would be accomplished through highway signing, area marketing strategies, and via low-watt radio broadcasts, called Traveler Information Stations (TIS). The TIS broadcasts would provide capsule information regarding fees, hours of operation, permits, etc. The broadcasts, which can be easily updated, also would advise travelers that they can save time at the entrance stations and in-park facilities by paying the entrance fee and getting wilderness use permits before they enter the park. Signs would be needed to inform people to tune their car radios to the appropriate frequency. To the extent possible, the TIS programs would be developed in partnership with the gateway communities and other agencies.

The exact locations and sizes of these external facilities are beyond the scope of this plan. Operational decisions would to be negotiated with any interested participants. At this writing, the Packwood and Enumclaw contact centers have the greatest potential to function as joint NPS/USFS facilities, utilizing existing or new structures. The cooperating association already has limited sales outlets in these two buildings.

A permanent, larger, and accessible visitor contact center in or near Wilkeson would replace the railroad caboose. This facility could be housed in a new or existing structure, and it could be operated in partnership with others. In addition to the general information/orientation functions outlined above, wilderness permitting would continue to be a primary function of the Wilkeson facility.

If developed, the proposed shuttle facility located along Route 410 would serve primarily as a shuttle bus staging facility for visitors going to Sunrise. When the vehicle carrying capacity for Sunrise is reached, visitors would be directed to this staging area where they would park their cars and ride a shuttle to Sunrise. Other information and orientation functions also would be necessary for visitors entering the park, or seeking alternative destinations or activities.

Since most park visitors arrive through the Nisqually entrance, the new visitor center proposed along Route 706 would likely become the main visitor contact facility outside park boundaries. The Nisqually facility would be open all year, and would provide information and orientation appropriate to the season. The interpretive components of this and the other external visitor contact centers is discussed in the next section.

Radio and telephone communication among the proposed visitor contact centers and entrance stations would be extremely important. Each facility would need to be alerted of any area closures, so that visitors could be efficiently directed to alternative locations. In addition, improved communications and partnerships among other tourist destinations and attractions in the region would help ensure the production and distribution of accurate and current information to visitors. Visitor center phone numbers also would be listed on the park web site.

Each of the proposed external contact centers and entrance stations would provide visitors with copies of the official park folder, the park newspaper, and other pertinent literature. At the contact centers, space would be needed for storing maps, folders, and other free literature. To avoid waste, each center would have a changeable display case near the information desk containing samples of various site bulletins and other free literature. Text would inform visitors that copies of the folders are available on request.

The official park folder would need to be revised as elements of the GMP are implemented. The maps should not only help visitors tour the park, but also show the primary routes for reaching the park from major highways. The park newspaper also would be redesigned, primarily to cover changing subjects and perhaps to include a good map of the region.

Except perhaps for the Nisqually Visitor Center, most of the contact centers likely would have limited space for informational and interpretive media. Where possible, portable, or even temporary exhibits could be adapted to small spaces, rotated through the seasons, or used to highlight special events, themes, resource issues, and recent incidents.

Nisqually Visitor Center

The draft GMP recommends a new visitor center along the Nisqually entrance route. The pre-design and design phases of the proposed building's development would address the various functions or "program" for the facility. From an interpretive perspective, the structure would need to contain the following:

- Staffed information desk with room for 2-3 employees to work, equipped with telephone, computer, storage for literature, public address system, and remote switches for starting the audiovisual program
- Entrance fee/permit desk for collecting entrance fees and issuing wilderness use permits
- Restrooms for employees
- Restrooms for the public with interior/exterior entrances
- Cooperating association sales outlet/bookstore, including separate office for handling money
- Lobby with room to accommodate bus groups and for information/orientation exhibits, including a topographic relief map
- Exhibit areas for permanent and changeable interpretive displays
- Auditorium with seating to accommodate one or more bus groups (75 seat minimum)
- Meeting room for employees, workshops, etc.
- Office and work space for staff
- Storage for free and sales publications, and interpretive demonstration materials

Possible topics for some of the information/orientation exhibits have already been discussed. The proposed topographic relief map, however, has potential for conveying interpretive messages in addition to serving an obvious orientation function. A new relief map could include interactive elements that would illustrate and interpret various natural and geologic changes over time (i.e., glaciation, lahars, eruptions, and aspects of ecological communities and succession).

A key objective for the interpretive exhibits (some perhaps including audiovisual components) would be to introduce visitors to each of the park's primary interpretive themes. The proposed center's exhibits also would present regional topics such as the fragmented forest, air quality, other Cascade volcanoes, American Indian presence, and the rivers originating from the mountain—all topics that transcend the park boundary. Since some peak season visitors may be unable to gain access to a number of the most popular areas in the park, the Nisqually Visitor Center may be their only opportunity to learn about some of the significant resources and their related themes. The presentation of elements of regional themes/topics would help visitors place the park in a regional context, and also encourage people to visit other sites outside the park boundary.

During the media planning and design phase, decisions would be made regarding a feature/site based approach or a topic/theme treatment for the exhibits. The former would help people plan their visit and get an introduction to the various sites, the latter might better interpret processes and place the resources in a broader context. A blend of the two approaches may prove to be the best solution, something that a good planning/design firm would be able to accomplish.

The proposed visitor center's location at a low elevation would likely result in it being open year-round. Its location would afford a safer place for displaying museum objects and perhaps interpreting the overall history of the park. The exhibits could be developed to offer visitors a journey up the mountain and a journey through history. Through these journeys visitors also would discover how the mountain has become a cultural and spiritual icon to past and present peoples.

To retain the interest of the park's many repeat visitors, changeable exhibits focusing on resource issues, recent natural or geologic activities, and special events may encourage regional visitors to stop each time they come to the park.

By the time this proposed visitor center was built, a new park audiovisual program should have been produced. In developing the treatment for the new film, consideration should be given to a program that would capitalize on the concepts of a journey through history and a journey up the mountain. Film/video can be very effective in bringing the past to life. This medium also is good for presenting concepts such as geologic time, and illustrating processes like glaciation, lahars, and other phenomena. If the Nisqually Visitor Center is developed before a new film is produced, the park should explore the potential

with PBS of getting "Rainier: The Mountain" edited for use as a temporary park audiovisual program.

A projection booth would be included in the theater design to enable the showing of slide, film, and video programs. The theater also could be used in the evenings for ranger talks and for various community meetings/gatherings.

As a year-round operation, the proposed Nisqually Visitor Center would probably become the cooperating association's major sales outlet. While most people would likely use the facility on their way into the park, others would stop on their way out. The bookstore should carry a full line of theme-related items, including driving tours (on tape and/or CD).

Depending on the location of the proposed visitor center, ranger-guided interpretive talks and tours may be possible. For example, if the facility were located near the river, personal services interpretive programs could utilize this resource to link the park with Puget Sound, illustrating how the mountain influences the entire region.

Highway 410 Information/Shuttle Staging Center

If developed, this proposed facility would function primarily as a seasonal shuttle bus staging center for trips to Sunrise. The building also may provide information/orientation for visitors entering the park along this corridor.

The building program would need to include the following functions:

- Staffed information/permitting/entrance fee collection desk
- Lobby/exhibit area
- Audiovisual alcove
- Restrooms for staff and public
- Storage for free and sales publications
- Offices for staff (including cooperating association) and for handling monies

It is uncertain whether this proposed facility would be open at non-peak times when the buses are not required. If not, then there may be little need for much interpretive media, since visitors riding the buses would be able to experience the facilities at Sunrise. In any event, interpretive exhibits (possibly portable or rotating displays) at the staging center would provide a basic introduction to the park themes. Interpretive media also would include a small video alcove for showing the park film.

A small cooperating association sales outlet also would be provided. Sales items would focus primarily on themes related to the Sunrise area and include a few parkwide publications.

It also is uncertain whether any form of interpretation would be offered on the proposed shuttle buses. The preferred option would be to hire paid and/or vol-

unteer staff to ride the buses and provide on-board narration and answer questions. Another option would utilize recorded interpretive messages that could be activated by the bus drivers at designated locations. This latter option may require acoustical treatments to the buses to ensure good sound quality.

Packwood and Naches Visitor Contact Centers

As stated in the information/orientation section, the Packwood and Naches visitor contact centers would possibly utilize existing USFS facilities and be operated through partnership agreements. The small size of the potential existing structures would limit the amount of media development.

Where feasible, the interior spaces (building program) should include the following:

- Staffed information/permitting/cooperating association sales desk
- Lobby/exhibit area
- Audiovisual alcove, possibly without seating
- Cooperation association sales area
- Office for staff (including cooperating association) and for handling monies
- Storage for free and sales literature

While the emphasis would be on information and orientation to the park and the region, exhibits would be developed to introduce each of the park's interpretive themes, and place appropriate themes into a regional context. The exhibits would probably be of a simple design, primarily text and graphic panels, utilizing few, if any, original objects. Space permitting, a small video alcove would be designed for showing the park film.

Both of the facilities already have a small cooperating association sales area, and it is recommended that these would continue.

To further strengthen the park/region interpretive links, as well as the interagency partnerships, the participants could explore the development of a series of roadside pullouts and wayside exhibits along these entry corridors. These elements could become part of a park/region wayside exhibit proposal.

Wilkeson Visitor Contact Center

A new Wilkeson visitor contact center would serve visitors (mostly local and regional people) entering the park from the northwest. The primary function of the facility would be to provide information/orientation and to issue wilderness use permits. In addition to informing visitors about safety, trails, and what to see along the drive, etc., interpretive exhibits would provide an introduction to each of the park's primary interpretive themes (especially those related to the rainforest and old growth stands) and critical issues.

With the volume of wilderness users, this would be a good opportunity to place special emphasis on the wilderness theme. Also, since there is a high volume of repeat visitation, the development of a series of changing portable exhibits on topics such as air quality, geo-hazards, NPS/park history, etc. will encourage visitors to make repeated stops. Improved signage would redirect lost visitors headed to Paradise, and would identify the center as the only place to obtain wilderness and climbing permits on the northwest side of the park.

The significance of the Carbon River Road as part of the park's National Historic Landmark District would be mentioned in the contact center media, but the main interpretive sites would be along the road itself. This would be addressed through part of a parkwide wayside exhibit proposal, and a potential self-guiding tour publication. Wayside exhibit locations would need to be carefully considered, as the area is prone to vandalism and sections of the road often become flooded.

The draft GMP calls for a backcountry experience (walk-in/bike-in) at the Ipsut campground; however, through a proposed boundary change (also recommended in the GMP) there is potential to build a new campground and amphitheater at a location currently outside the park. If this happens, it would be possible to reinstitute ranger-led evening programs in this sector of the park.

Longmire

If the proposed Nisqually Visitor Center is built, there may be less need for a full scale Wilderness Information Center (WIC) at Longmire. If this becomes the case, the park staff would explore the potential of using the Longmire space for some of the personal services interpretive programs in the summer, and as a place to wait for the road to open in the winter. For the winter, a series of text/graphic panels could provide information regarding snow safety, avalanche danger, geo-hazards, and possibly include some interpretation of the building itself. Access to the building would need to be improved, and maintenance issues (i.e., snow removal) addressed.

Paradise

Paradise will remain one of the most popular destinations in the park; however, to preserve a quality visitor experience, the draft GMP is proposing carrying capacity limits for the site. When implemented, some park visitors may be unable to stop here on peak days, but those who do gain access would find less congestion and an atmosphere more conducive to appreciating park resources and values.

The draft GMP also is recommending that the Jackson Visitor Center (JVC) be removed, and replaced with a new structure closer to the Paradise Inn. Site selection, planning, and design of a new visitor center at Paradise is beyond the scope of this long-range interpretive plan; however, park interpreters would need to be actively involved throughout the entire process. In addition to a location closer to the inn, well designed parking and circulation patterns would make it easy for visitors to decide where to go. Design would capitalize on the views of the mountain and the meadows.

Current peak use visitation statistics indicate that the new visitor center should be capable of accommodating between 300-500 people at one time.

The building program also would include the following information/interpretive components:

- Staffed information desk with room for 2-3 employees to work, equipped with telephone, storage for literature, public address system, and remote switches for starting the audiovisual program [The desk should be equipped for issuing backcountry use permits in the winter.]
- Lobby with room to accommodate bus groups, organize guided tours, and provide information/orientation exhibits, including a topographic relief map
- Exhibit areas for permanent and changeable interpretive displays
- Warming/viewing area which could contain some exhibit displays
- Auditorium with seating for a minimum of 150 people, and equipped with an audiovisual booth for showing slides, films, and videos [The auditorium would be used for both day and evening programs.] A new park film would be developed.
- Cooperating association sales outlet/bookstore, including separate office for handling money [The bookstore will need to be locked at night when the auditorium is used for evening programs.]
- Restrooms for employees
- Restrooms for the public with interior/exterior entrances
- Office, first aid station, meeting room, and work space for staff [In the peak season, there are 7-9 interpretive employees on duty per day, plus more in other divisions.]
- Storage for free and sales publications, interpretive demonstration materials, and winter storage for wayside exhibits
- Storage/fitting area near an entrance for snowshoe tours

[Note: The above program elements do not include food service, gift shops, showers, and other functions currently in the JVC.]

A theater would be an important component of a new Paradise visitor center. While some AV elements can effectively be incorporated into exhibits, other complex and/or sequential stories and processes (as indicated above) are best told in a theater setting through a dedicated AV program. The program also would enable visitors to see the Paradise area at different times of year, and when the mountain is obscured.

Evening programs would move from the inn to the new visitor center auditorium. This would alleviate current conflicts with competing activities at the inn, and provide a better atmosphere for evening interpretive programs. Building design would consider the need to secure other parts of the building when the auditorium is used for evening programs.

APPENDIX E

Table of Media/Program/Theme Relationships

Theme Topic	Inside Facilities/Media (exhibits, AV, film, etc.)	Outside Media (wayside/trailside exhibits)	Personal Services	At Home/Take Home Media
Geology -Mountain as a volcano -Active processes -Global connections -Geo-hazards -Geologic time/human time -Glacial processes -Glaciers shaping the mountain -Forces of fire and ice -Volcano monitoring, research, prediction -Beauty and artists' interpretation -Other Cascade volcanoes	-Paradise Visitor Center- film and exhibits (modern view) -Sunrise Visitor Center- film and exhibits showing processes (traditional view) -Wilkeson Contact Center- exhibits on glaciers & river action -White River Ranger Station- geology and you (safety) -Paradise or Sunrise interactive relief model -All to make Pacific Rim & Cascade Range connections	-Paradise Glacier- self-guiding trail -Parkwide- geology "discovery" wayside exhibits along park roads (part of park-wide wayside exhibit proposal/plan). -Sunrise-self-guiding geology trail booklets/waysides -Carbon River- booklet and/or waysides on erosive power of the river	-All topics have relevance to personal services activities. -Geology caravan/auto tour (option for fee interpretation) -Field Institute and/or seminars -Geologist-in-Parks program	-Sale of park video(s) -Site bulletin on the mountain as a volcano -USGS publications on geo-hazards -Geo-hazard publications for lodge guests, campers, employees, & residents -Sales publications on the general geology stories for different age & interest levels -Official park handbook -Expand/improve web site to include experiential tours. -Park newspaper- more on current research & other interpretive topics.

Theme Topic	Inside Facilities/Media (exhibits, AV, film, etc.)	Outside Media (wayside/trailside exhibits)	Personal Services	At Home/Take Home Media
Ecology -Recreational impacts -Air pollution -Effects of volcano; inter-relatedness of botany and geology -Endangered species & habitat -Exterior influences that transcend boundaries -Adaptations to habitats & ecosystem -Park as outdoor laboratory -Research & natural resource management issues -Global climate changes -Ecosystem interaction components -Vanishing old growth -Loss of species -Fragmentation & logging effects -Similarities with other places -Reservoir of genetic diversity -Basic ecological processes -Subalpine meadows and forest encroachment -Fire ecology -Snow ecology	-Ohanapecosh Visitor Center- forest ecology exhibits -Sunrise Visitor Center- meadow & sub-alpine ecology media (#2 theme) -Paradise Visitor Center- meadow & sub-alpine ecology media (#1 theme). Provide interpretation for the air quality instrument. Show seasonal changes. -Wilkeson Contact Center- rainforest exhibits	-Longmire- trail booklets, etc. (not waysides) to interpret old growth forest ecology. -Ohanapecosh- waysides and other media on old growth. -Paradise, Sunrise, Tipsoo- Re-assess value of "Don't be a Bigfoot" signs. -Warning signs about social trails in meadows (i.e. Tipsoo).	-Programs on old growth at Longmire & Ohanapecosh -Utilize maintenance crews in the field to give information to visitors. -Meadow rovers give information on recreational impacts -Uniformed staff presence in the field -Field institute programs to show research & park as a laboratory -Cross training and sharing information among resource management staff, partners, and interpreters -Utilize resource management staff in interpretive programs -Science symposium -Ecology as a major component of the education programs.	-Publications on old growth -Retain "Meadow Stomper" buttons. -"State of the Park" insert to park newspaper -Publication series on current park research -Web site could include detailed and/or real-time monitoring data and updates from researchers -Ecology concepts for junior ranger program -Emphasize "what you can do" along with information on ecological problems and issues.

Theme Topic	Inside Facilities/Media (exhibits, AV, film, etc.)	Outside Media (wayside/trailside exhibits)	Personal Services	At Home/Take Home Media
Wilderness -Wilderness Act -Mount Rainier wilderness experience -Natural quiet -Clear skies -Sustainable design -Cultural resources in wilderness: fire lookouts, trails, cabins -Wilderness etiquette and values -Changing attitudes toward wilderness -Legal/tangible & experiential/ intangible concepts of wilderness -Nature bats last -Intrinsic value of wilderness -Spiritual, aesthetic, and solitude aspects of wilderness -Complexities of wilderness management -Carrying capacities and cumulative effects of people in wilderness areas	-Longmire WIC- wilderness & climbing policies & safety. Also, connect wilderness & historic views by showing how wilderness management has changed over time. -Paradise Old Station- climbing policies & safety -White River Patrol Cabin- trails & early ranger patrols -Mt. Fremont Lookout- historic role in fire management/suppression -AV program which shares multiple personal relations, perspectives & experiences in wilderness. -Smaller relief models, possible with interactive elements -Utilize the words of well-known writers & poets who speak to wilderness -wilderness interactive computer	-Avoid littering the wilderness with signs -Trailhead signs (informational waysides) -Retain "you are entering wilderness" signs. -Small interpretive panels near backcountry cabins to explain their historic role in protecting park resources.	-Experiential programs on the intangible aspects of wilderness -Programs on wilderness for children -Encourage dialog on wilderness (i.e. a comment wall). -Provide visitors with opportunities for self – expression on wilderness. -Present factual programs on wilderness issues. -Presentation on wilderness issues. -Evening programs on wilderness: changing views toward, tangible/intangible elements, philosophy, etc. -Living history programs and the use of historic quotes. -Education & outreach programs provide introduction to wilderness & foundation for values development.	-Use web site & CD-ROM's as outreach to wilderness seekers and to armchair wilderness advocates. -Publication of the history of legislation and changing attitudes toward wilderness.

Theme Topic	Inside Facilities/Media (exhibits, AV, film, etc.)	Outside Media (wayside/trailside exhibits)	Personal Services	At Home/Take Home Media
Human History -The mountain as an icon -Living connections with the past for American Indian tribes; historic uses/gathering -Park as a mecca for recreation -The irony of preservation and development -Park as a good example of early park planning -Rustic architecture -Management successes and failures -Duality of the NPS mission -Learning about stewardship -Establishment of the park -Establishment of the National Historic Landmark District -Early settlers, explorers, and mountain challengers -Cultural landscapes -Historic roads, bridges and trails	-Lodges- present elements of NPS story and mission -Longmire- exhibits to focus primarily on human stories. -Film to focus on people's relations with the mountain (possible use of excerpts from recent PBS program "Rainier, The Mountain"). -CD-ROM database on historical/cultural collections, archives, film & photos. -Exhibits/AV program utilizing above plus oral histories -Testimonials of personal ties to the mountain. -Historic buildings are expected and designed to be subliminal- not noticed. And it works! -White River Patrol Cabin- complete Phase II of exhibit plan.	-Sunrise area- waysides interpreting significance of historic structures as result of early park planning. Also exhibits on history of climbing. -Carbon River area- wayside exhibits on mining, the NHLD, and history of the road. -Paradise area- waysides on history of historic buildings and on recreational history at the site. -Narada Falls- (or Christine Falls) waysides on the landscape architecture and bridge.	-Longmire area- living history, costumed interpretation, Nisqually Indian demonstrations/ programs. Could include costumed roving on Trail of Shadows or programs in the community building, WIC (in winter), and lodge. Tours of historic Longmire. -Paradise- Nisqually Indian demonstrations/programs. -Sunrise area- Yakama Indian demonstrations/programs. -Ohanapecosh area- Cowlitz Taidnapam demonstrations/ programs. -Carbon/Mowich area- Puyallup & Muckleshoot Indian demonstrations/ programs. -Utilize guest speakers with personal stories from the past. -Evening programs "Voices & Visions" -Create interpretive activities (i.e. nature guiding or caravan tours) that have the feel of programs from the old days (1930's).	-More publications, such as the recent "100 Years at Longmire Village", on all aspects of the parks human history. -Special effort to increase items related to Indian tribes associated with the mountain.